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FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Original Correspondence.

GOVERNMENT INSPECTION OF MINES

The Bill introduced in the House of Commons by Mr. BRUCE to Consolidate and Amend the Acts relating to the Regulation and Inspection of Mines contains several important new provisions, which will, no doubt, lead to considerable discussion before they are permitted to become law. Perhaps the most important clause in the entire Bill is the fifteenth, which renders it compulsory to work the mine in panels if more than 100 persons be employed, and prohibits the employment of more than 100 persons in any one panel. By Clause seven, women, lads, and children employed above ground are placed under the Workshops' Regulation Act, 1867. By Clause 11, no deduction is to be made from any wages or money in respect of wages for the cost of any timber used, or any other expense incurred in propping the roof or side of any part of the mine. By Clause 18, the General Rules have been somewhat modified, but there are no very important new provisions. The next clause, however, is an important one, for it recognises the fact that for the purposes of safety it is necessary to see that the workmen as well as the owners and superior officers of the mine have certain restrictions placed upon them. The provisions as to coroners' inquests are calculated to lead to the verdicts given being received with greater favour and confidence than at present. As the precise form which an Act of Parliament will take can scarcely be judged of until after the second reading, an abstract of the Bill is subjoined, which will permit of the general nature of the Bill being understood. The General Rules Clause and the Workman's Clause (sec. 18 and 19) are given in detail:—

Preliminary.

I.—The short title of the Act is "The Mines Regulation Act, 1869."
II.—The Act is not to apply to Ireland.
III.—The Act takes effect on Sept. 1, 1869.
IV.—Unless the context otherwise requires—the term "mine" includes all mines and underground workings, and all works, machinery, tramways, and sidings in and about the mine, both below ground and above ground; the term "coal and ironstone mines" includes disused or exhausted coal mines; the term "owner" means the immediate proprietor, or lessee, or occupier of any mine, or of any part thereof; the term "agent" means any person having on behalf of the owner care or direction of any mine, or of any part thereof; the term "Secretary of State" means one of Her Majesty's Principal Secretaries of State; and the term "court" includes any justices, sheriff, sheriff substitute, and magistrate exercising jurisdiction with respect to matters in this Act.

I.—MINES IN GENERAL.

Employment of Women and Children, &c.

V.—No child under 12 years, and no woman is to be employed or allowed underground.
VI.—No lad under 16 is to be employed for more than 12 hours in any 24 hours.
VII.—The provisions of the "Workshop Regulation Act, 1867," is to extend to all women, young persons, and children employed aboveground in connection with any mine, in the same manner as if the place in which they are so employed were a workshop within the meaning of that Act.
VIII.—The owner or agent of every mine must keep at the office a register of all lads under 16 years employed underground, specifying name, age, residence, and date of first employment. Register is to be open to Inspector.
IX.—Where there is a vertical shaft or pit or an inclined or horizontal plane in any mine, whether for the purpose of an entrance to such mine or of a communication from one part to another part of such mine, and persons are taken up or down or along such vertical shaft or pit or inclined or horizontal plane by means of any engine, windlass, or gin, worked by steam or any mechanical power, or by an animal, or by manual labour, the person in charge of such engine, windlass, or gin, or of any part of the machinery, ropes, chains, or tackle connected therewith must be a male of at least 18 years if steam or mechanical power be used, and at least 15 years if animal or manual labour be employed. In the latter case, the person directing the lad is considered to be in charge.
X.—The owner or agent is responsible for these provisions being carried out, unless the child or lad be employed through false representation of parent or guardian, when the latter becomes responsible.

II.—WAGES.

XI.—No wages are to be paid to any person at or within any public-house, beer-shop, or place for the sale of exciseable liquors, or other house of entertainment, or any office, garden, or place belonging or contiguous thereto, or occupied therewith. All wages payable to persons employed in or about any coal and ironstone mine must be paid only in money by the immediate employer of such persons at an office which is appointed by him for the purpose, and is situate in conformity with the foregoing provisions of this section, and is notified in manner prescribed by the special rules of the mine. No deduction is to be made from any wages or money in respect of wages for the cost of any timber used or any other expense incurred in propping the roof or side of any part of the mine.
XII.—Where those employed are paid by the weight, measure, or gauge of the coal, ironstone, or other material gotten it must be truly weighed, measured, or gauged accordingly. The persons employed may, at their own cost, station one of the persons for the time being employed in such mine to take an account of the weight, measure, or gauge used, on behalf of such persons by whom he is so stationed. The person so stationed is not authorised in any way to impede or interrupt the working of the mine, but is authorised only to take such account as aforesaid, and the absence of such person shall not be a reason for interrupting or delaying such weighing, measuring, or gauging. The Inspector of Weights and Measures for the district may from time to time, but without unnecessarily interrupting the working of such mine, inspect the weighing-machines, weights, measures, and gauges used for such mine, and examine the same, having due regard to the weights, measures, and gauges ordinarily used in such mine.

III.—COAL AND IRONSTONE MINES.

Safety.

XIII.—The owner or agent must not employ or permit any person in such mine, unless there are in communication with every seam of such mine for the time being at work at least two shafts or outlets, separated by natural strata of not less than 10 ft. in breadth, by which shafts or outlets distinct means of ingress and egress are available to the persons employed in such seam, whether such two shafts or outlets belong to the same mine, or one or more of them belong to another mine. Provided that such separation shall not be deemed incomplete by reason only that openings through the strata between the two shafts or outlets have been made for temporary purposes of ventilation, drainage, or otherwise. This section shall not apply to opening a new mine for the purpose of searching for or proving minerals, or to any working for the purpose of making a communication between two or more shafts, so long as not more than twenty persons are employed below ground at any one time in the whole of the different seams in connection with each shaft in such new mine or such working.
XIV.—Existing awards as to shafts or outlets are to be respected.
XV.—Unless a mine be divided into separate districts or panels, in such manner that each separate district or panel has at least one independent intake (or passage for the supply of air to it from the downcast-shaft or main air-way) and, at least, one independent return air-way (or passage for the current of air from the district or panel) to the main return or air-way or upcast-shaft (at which is the exit for the return air), not more than one hundred persons shall be employed at the same time in such mine, or be in such mine for the purpose of employment therein. Provided that—
(a).—The air for supplying two or more districts or panels may be taken together in one intake (or passage) for such distance from the shaft as may, upon application being made, be allowed by the Secretary of State.
(b).—The currents of air returning from two or more districts or panels may be allowed to join at such place as the Secretary of State may, upon application being made, consider desirable for the purpose of allowing such currents to mix before coming within reach of the flame of a ventilating furnace or otherwise.
Where a mine is divided into such separate districts or panels, not more than one hundred persons shall be employed, or be for the purpose of employment in any separate district or panel.
XVI.—If any owner or agent acts in contravention of or fails to comply with any of the foregoing provisions with respect to shafts, outlets, districts, and panels, he shall be guilty of an offence against this Act. Any of Her Majesty's superior courts of law or equity, whether any other proceedings have or have not been taken, may, upon the application of the Attorney-General, acting on behalf of the Secretary of State, prohibit by injunction the working of any mine in which any person is employed, or permitted to be for the purpose of employment, in contravention of the foregoing provisions with respect to shafts, outlets, districts, and panels, and may award such costs in the matter of the injunction as the court thinks just; but this section shall be without prejudice to any other remedy permitted by law for enforcing the provisions of this Act.
XVII.—Agreements preventing compliance with the Act as to shafts, outlets, districts, or panels are abrogated.
XVIII.—The following are the new General Rules to be observed in every coal and ironstone mine:—
1.—An amount of ventilation shall be constantly produced in every coal and ironstone mine adequate to dilute and render harmless noxious gases to such an extent that the working places of the pits, levels, and workings of every such mine, and the travelling roads to and from such working places, shall be in a fit state for working and passing therein. Provided that the court may dismiss any charge for acting in contravention of this rule, if satisfied that all reasonable precautions have been taken by the owner, agent, or person who is so charged.
2.—All entrances to any place not in actual course of working and extension, and suspected to contain dangerous gas of any kind, shall be properly fenced across the whole width, so as to prevent access thereto.
3.—In every working approaching any place where there is likely to be an accumulation of gas, no lamp or light shall be used other than a safety-lamp.
4.—Whenever safety-lamps are required by these regulations or by the special rules (in this Act mentioned) to be used, they shall not be used until they have been first examined and securely locked by a competent person or persons duly authorised for this purpose.
5.—In any mine or part of a mine in which safety-lamps are required by the special rules to be used, no person shall use powder or other explosive or inflammable substance for the purpose of blasting or of getting coal or ironstone, except to the extent and in the manner authorised by the special rules.
6.—Where a place is likely to contain a dangerous accumulation of water the working approaching such place shall not exceed 6 ft. in width, and there shall be constantly kept a sufficient distance, not being less than 5 yards in advance, at least one bore-hole near the centre of the working, and sufficient flank bore-holes on each side.
7.—Every underground plane on which persons travel, which is self-acting or worked by an engine, windlass, or gin, shall be provided (if exceeding 50 yards in length), with some proper means of signalling between the stopping places and the ends of the plane, and shall be provided in every case at one side or the other of such plane, at intervals of not more than 20 yards, either with sufficient man-holes (or places of refuge) or with a space (for a place of refuge) of sufficient length and of at least 3 ft. in width between the wagons running on the tramroad in the plane and one side or the other of the plane, which man-holes or space shall be constantly kept clear.
8.—Every level or inclined plane where the load is drawn by a horse or other animal shall be provided, at one side or other of the plane, at intervals of not more than 50 yards, either with sufficient man-holes or with a space of sufficient length and of at least 3 ft. in width between the wagons running on the tramroad in the plane and one side or the other of such plane, which man-holes or space shall be constantly kept clear.
9.—Every shaft or pit which is out of use, or used only as an air pit, shall be securely fenced.
10.—Every working and pumping pit or shaft shall be properly fenced, but this shall not be taken to forbid the temporary removal of the fence for the purpose of repairs or other operations, if proper precautions are used.
11.—Every working and pumping pit or shaft where the natural strata are not safe shall be securely cased or lined or otherwise made secure.
12.—Every working pit or shaft shall be provided with some proper means of communicating distinct and definite signals from the bottom of the shaft to the surface, and from the surface to the bottom of the shaft.
13.—A sufficient cover overhead shall be used when lowering or raising persons in every working pit or shaft, except where it is worked by a windlass or gin, or where the person is employed about the pump or work of repair in the shaft, or where a written exemption is given by the Inspector of the district,
14.—A single-linked chain shall not be used for lowering or raising persons in any working pit or shaft except for the short coupling chain attached to the cage or load.
15.—There shall be attached to the drum of every machine used for lowering or raising persons flanges or horns projecting sufficiently to prevent the rope from slipping off the drum.
16.—There shall be attached to every machine worked by steam, water, or mechanical power, and used for lowering or raising persons, an adequate break, and also a proper indicator (in addition to any mark on the rope) which shows to the person who works the machine the position of the cage or load in the pit or shaft.
17.—Every part of the machinery used in or about the mine near to which persons are liable to be employed or to pass in the course of their employment in or about the mine, and which may be dangerous to such persons, shall be securely fenced so far as practicable.
18.—Every steam boiler shall be provided with a proper steam gauge and water gauge, to show respectively the exact pressure of steam and the exact height of water in the boiler, and with a proper safety-valve.
19.—A barometer and thermometer shall be placed above ground in a conspicuous position near the entrance to the mine.
XIX.—If any person does any of the following things he is to be guilty of an offence against the Act—
1.—Being in any place where a safety-lamp is required by this Act or by the special rules to be used, unlocks or wilfully damages any safety-lamp, or uses any safety-lamp which he knows to be defective.
2.—Wilfully damages or without proper authority removes any fence, fencing, or casing provided in compliance with this Act.
3.—Wilfully damages, or without proper authority removes or renders useless any means of signalling, signal cover, chain, flange, horn, break, indicator, steam-gauge, water-gauge, safety-valve, barometer or thermometer, or other thing in any coal and ironstone mine provided in pursuance of this Act.
4.—Places anything in any place of refuge so as to prevent proper access thereto.
5.—Fails to observe such directions with respect to working as may be given to him with a view to comply with the regulations respecting working contained in this Act or in the special rules.

Special Rules.

XIX.—Special rules are to be established best calculated to prevent dangerous accidents, and are to have same force as if part of Act.
XX.—Existing special rules are to continue in force.
XXI.—Explains mode of establishing new special rules.
XXII.—Enables the Secretary of State to object to special rules, and provides how he is to do so.
XXIII.—Provides for amendment of the special rules.
XXIV.—The owner or agent must transmit special rules to Inspector for approval of the Secretary of State within time limited by Act.
XXV.—For making known the special rules and provisions of the Act to all persons employed, an abstract of the Act, provided by the Secretary of State, and an entire copy of the special rules, are to be thus published:—The abstract and rules are to be kept posted on a board, in easily legible characters, in some conspicuous place at or near the mine, and at the pay place. A printed copy of the abstract and special rules is to be supplied gratis to each person employed about the mine who shall apply for one. Defacing any abstract or rules posted up is an offence against the Act. [Act.
XXVI.—Acts in contravention of these special rules are an offence against the

Notices and Abandonment.

XXVII.—Notice is to be given to Inspector within two months after commencement, recommencement, abandonment, or discontinuance of working of any coal and ironstone mine.
XXVIII.—Where any coal or ironstone mine is abandoned, or the working thereof discontinued, the shaft must be kept securely fenced, for the prevention of accidents.
XXIX.—Notices of accident and deaths are to be sent by owner or agent to the Inspector within 24 hours of occurrence.

Arbitrations.

XXX.—Defines how arbitrations are to be commenced and carried on.

IV.—INSPECTION.

XXXI.—Empowers the Secretary of State to appoint and remove Inspectors.
XXXII.—Disqualifies persons acting as land agent or in any business connected with mines for being an Inspector.
XXXIII.—Defines the powers of the Inspectors, and provides against wilful obstruction of them in their duty.
XXXIV.—Provides for arbitration in case of failure on part of owner to remedy cause of danger complained of by Inspector.
XXXV.—Provides for maps and plans of workings being kept, and shown to Inspector when required.
XXXVI.—Orders maps and plans of abandoned mines to be deposited with the Secretary of State. But no person is to see such maps and plans without consent of owner until after the lapse of twenty years.
XXXVII.—Inspectors are to make annual reports to the Secretary of State.

V.—SUPPLEMENTAL.

Coroners.

XXXVIII.—Inquests on explosions must be adjourned unless Inspector or other representative of the Secretary of State be present. The coroner must give four days' notice of adjourned inquest to Inspector. Before adjournment body may be identified, and interment ordered. If explosion have caused but one death there need be no adjournment if the coroner has sent 48 hours' notice to Inspector. The Inspector may examine witnesses subject to order of coroner. Where evidence at inquest, at which Inspector is not present, indicates a defect requiring remedy the coroner must send notice to Inspector. No person having a personal interest or employed in the mine is qualified to serve on a jury for enquiry into an accident in that mine.

Penalties.

XXXIX.—Every owner and every agent who is guilty of an offence against this Act is liable to a penalty not exceeding 20*l.* for each offence, and if the Inspector has given a written notice of the offence to a further penalty not exceeding 1*l.* for every day after such notice that such offence continues to be committed. Every person other than aforesaid employed in or about a mine who is guilty of an offence against this Act, or is guilty of any act or omission which in the case of an owner or agent would be an offence against this Act, is liable, in the discretion of the court, to a penalty not exceeding 2*l.*, or to imprisonment with or without hard labour, for a period not exceeding three months. Every person who is guilty of any contravention of or non-compliance with any provision of this Act, which contravention or non-compliance is not expressely declared to be an offence, is liable to a penalty not exceeding 20*l.* for each offence.
XL.—Directs how penalties shall be recovered.
XLI.—A person who is the owner or agent of any mine, or the father, son, or brother of such owner or agent, is not to act as a justice of the peace, sheriff, or magistrate in any case relating to such mine, or to persons employed therein.
XLII.—Where a penalty is imposed under this Act for neglecting to send a notice of an explosion or accident or for any offence against this Act which has occassioned loss of life or personal injury, the Secretary of State may (if he think fit) direct such penalty to be paid to or distributed among the person or persons injured, or the relatives of any person or persons whose death may have been occasioned by such explosion, accident, or offence. Provided that—
(a).—Such person or persons did not in his opinion occasion or contribute to occasion the explosion or accident, and did not commit and was not a party to committing the offence.
(b).—The fact of such payment or distribution shall not in any way affect or be receivable as evidence in any legal proceeding relative to or consequential on such explosion, accident, or offence.
Save as aforesaid, all penalties imposed in pursuance of this Act are (to be paid into the receipt of Her Majesty's Exchequer, and carried to the Consolidated Fund.

Miscellaneous.

XLIII.—Certified (by Inspector) copy of special rules is receivable as evidence.
XLIV.—All notices may be served by post.
XLV.—Present Inspectors are to continue in office.
XLVI.—The Acts repealed are—the Act Prohibiting the Employment of Women and Girls in Mines (5 and 6 Vic., c. 99); the present Mine Inspection Act (23 and 24 Vic., c. 151); and the Double Shaft Act (25 and 26 Vic., c. 79).

That the panel system of working has some advantages cannot be questioned, but it is very doubtful whether any material diminution in the number of deaths would result from its adoption, except in connection with many other parts of the system in use in those districts most free from accidents resulting in a large number of deaths. One step towards the introduction of the principle of the double shift system is to be found in the provision in Clause 11, prohibiting deductions from wages for timber or for any other expense connected with propping the roof or side of any part of the mine; but it does not go sufficiently far to produce any appreciable amount of benefit. In the Journal of Nov. 23, 1867, Mr. JOHN NIXON, a gentleman not only educated as a colliery viewer but possessing the advantage of 20 years' experience, and being the head of one of the largest colliery firms in South Wales, pointed out, in referring to the lamentable explosion at Ferndale, the advantages of the system. He observed—

There is a much better supervision of the colliery, from the thorough organisation arising from a perfect division of labour, which makes every officer, and almost every workman, personally responsible for any neglect or carelessness. The coal getter is employed exclusively in cutting coal, and has nothing to do, as in the single shift, with examining the roof of the mine, setting timber, laying railway, &c., so that with ordinary exertion he can earn as much wages in seven hours with the double shift as he can get in eleven or twelve hours with the single shift. There is, however, no time for idling; he must keep vigorously at work, for he knows that his comrade of the second shift will turn him out, and take possession of his place, at the end of the first shift. Now, as twice the quantity of coal is got out of such working place with the double as compared with the single shift during the twelve hours the pit is at work, only half the extent of pit room or, in other words, half the number of working places, is required in the former, as compared with the latter system, and mark the great advantages that arise from such a state of things—

1.—The volume of gas exuding from the strata is probably little more than one-half.
2.—The quantity of air required to dilute it is diminished in the same proportion; consequently, where the ventilating power in any colliery under the single shift is only barely equal to the requirements of the colliery with the double shift the same power would be greatly in excess.
3.—There is only half the number and extent of air passages or windings to keep open—one of the most important considerations in a "fiery" colliery, with an inferior roof.
4.—Only half the number of air-doors: the leaving open of for twenty minutes has been known to cause explosions, leading to the loss of hundreds of lives.
5.—Only half the quantity of temporary "brattice," the extensive use of which "throttles" or impedes the free passage of the air through the whole district where they are employed.
6.—Half the number of "splits" or divisions of the volume of air required for ventilating the workings, and, therefore, only half the number of "regulators" to attend to and adjust.
7.—Half the number of horse-roads to keep, the cost of which forms an important item in collieries where the pavement and roof of the coal seam have a tendency to approach each other, or "pouch."
8.—The working face of the coal seam moves twice as fast, and, therefore, the roof of the mine is much easier and better kept up, and loss of life from "falls" of the strata, from which accidents constantly occur, greatly diminished.
The last is a most important consideration, on account of the great proportion which accidents arising from falls of the roof bear to all other causes.

In many districts the mines under the present system are idle for from 12 to 16 hours out of the 24; and as each working place remains exclusively in the hands of one set of workmen—each man doing for himself much that under the double-shift system would be performed by petty officers employed by the owner—the difficulty of discovering defects until accident has actually resulted, is much increased. With the single-shift system the men are too apt to devote all their attention to sending up a quantity of coal, even to the neglect of the necessary consideration of the state of their working place; but if two sets are working alternately, each will take care that the previous one has left everything in proper condition. Hitherto the double-shift system, although its universal introduction has been frequently suggested, has never, beyond the counties of Durham and Northumberland, received the attention it deserved; but it may now be hoped that, as an opportunity for legislating on the subject is presented, its adoption will be made compulsory, the advantages derivable from the system being thus extended to every colliery in the kingdom.

THE BRIERLEY HILL LOCKS LANE ACCIDENT: ITS CAUSE, AND THE PRESERVATION OF THE MINERS.

SIR,—I have waited since the verdict of the jury in this enquiry in the hope that someone would attempt a solution of the immediate cause of this sad accident, and account for the almost miraculous preservation of the lives of the men and boys who were in the pit at the time. Having seen no such account, I will venture a few remarks of my own, in the hope that they may lead to a thoughtful consideration of the subject, and tend to prevent a repetition of so serious an accident in the future. In doing so it will be necessary for me to refer to the construction of the dam, as also to the evidence of the Government Inspector of Mines; but in any remarks of mine which may appear to refer to the management of the pit, I wish it to be understood that I have the utmost regard for Mr. Greenway's abilities as a mining engineer, alike scientific and practical; and in commenting upon the evidence of the Government Inspector, I would also add that I have the most profound respect for all Government officers in discharge of their official duties, but at the same time consider, when their evidence is contrary to science and sound practice, they should not feel annoyed if their opinions are differed with, so long as they are fairly and respectfully criticised, which I will endeavour to do in dealing with that part of the subject. The cause, then, of the accident is admitted on all hands was the too great a pressure of water against the dam; or, in other words, the dam or its foundation was too weak for the pressure, and so gave way.

According to the evidence, the dam was said to have been constructed of, first, a 9-inch dry brickwall across the gate-road, and another brickwall 6 ft. thick, 12 ft. wide, and built into the top, bottom, and sides, with a space of 10 yards between the two dams, this middle space being filled in with dirt or refuse fire-clay from the floor of the gate-road. Three pipes with taps are said to have been inserted through both dams for the purpose of testing the height of or relieving the pressure of water against the dam. It is also said that at the time the 6-ft. dam was being constructed the ground for the foundation had to be blasted with gunpowder, it was so hard and that the taps had at times leaked a little, and had moistened the floor of the gate-road on the outer side of the main dam; and that the breach made by the water was underneath the main dam, carrying away the strata below it, leaving the brickwork of the dam almost intact.

Taking these circumstances as correct, it follows that the weakest part of the dam—the foundation—was subject to the greatest pressure. I say the weakest, because the space between the two brick walls, being filled in with previous material, had permitted the water to get to the back side of the large dam, and soften the floor or foundation on that side; and the leaking of the taps on the outside would soften the floor there, so that the brickwork would rest upon the softened strata, and the latter would become incapable of resisting any great pressure. If the space between the two brick dams had been filled in with well-tempered retentive clay, and well puddled, I do not think the foundation of the large dam would have given way. I think it would be well, too, in all cases where much pressure of water is anticipated, to invert the floor of the gate-road with 18-inch brickwork for 10 feet from the front of the dam, where the taps are. This invert would not only tend to prevent any bursting up under the dam, but if well cemented on the top would prevent any leakage either from the dam or the taps soaking into the floor. Nine times out of ten, whenever dams do give way it is underneath the foundation. The blasting of the foundation for the large dam would have the effect of shaking, and, indeed, fracturing the strata, probably to an extent not to be observed, or afterwards repaired or stopped by the workmen, and water would find its way into these fractures, and so soften the surrounding parts. However hard the strata, it would be far preferable to quietly cut it out with the pick. The harder the strata the more mischief would blasting do. The brickwork of the large dam remaining intact clearly proves that the dam, *per se*, was sufficiently well built; and the whole structure from end to end would probably have been sufficient, except for some unexpected and enormous influx of water behind the dams. On several of these points I quite agree with the opinion of the Inspector, but as regards the utility of dams in water levels I must respectfully beg to differ with Mr. Baker, the Government Inspector, who says—"I do not approve of any sealed dam being put in a water level. I cannot sanction the putting of any dam in a water level. In no other colliery in the district is there this arrangement."

If water dams were to be prohibited in heavily watered collieries there must be an end of the latter, for they could not be carried on without them. Under certain circumstances, without such dams the pumps and mine would be lost in an hour. A prudent mining engineer will take care by such dams and taps to have his water, however much it be, under as much control as he has his engine at surface, so that in the event of a breakage he can stop the flow of water until the repairs are made, and I am unwilling to believe Mr. Baker raised this objection seriously.

The effect of this accident upon the men and boys who were entombed may be open to various opinions as to their wonderful preservation from death through so long and dreary a time as 140 hours, without food. One theory advanced is that the tank dipping into the water sent air to the men. In my judgment, nothing could be more fallacious. The water, when at its greatest height, would be more than 40 ft. above the roof of the gate-road at the pit bottom, and the distance from the shaft to the edge of the water in both the rising gate-roads was 243 and 140 yards respectively. How then, I would ask, could air be pressed by a flat-bottomed tank 40 ft. vertical and 243 yards horizontally? The moment the bottom of the

tank struck the surface of the water all air between the two bodies would be expelled, and not carried down.

I think their preservation is due to several causes, all providentially acting for their good, and may be accounted for principally by chemical agency. The men and boys in the pit at the time of the water bursting in were divided into two parties, working in distinct parts of the pit, and who had no means of communication with each other except by the gate-road, which was afterwards filled with water. The men being at the work to the rise, some 60 or 70 ft. above the level of the pit bottom, my opinion is that as soon as the inset got roofed with water, and all communication with the outer air was cut off, gradual compression of the contained air in those parts of the mine where the men were at work would take place, and that such compression would reach its maximum when the water had risen to its greatest height. The effect of this compression would be to enrich the life-preserving element (oxygen) in the contained air, and, at the same time, prevent the discharge of carburetted hydrogen from the pores of the coal so long as the pressure was in favour of the compressed air. Some carbonic acid gas may have been present in the contained air of the mine at the time all communication with the outer atmosphere was cut off, and there would also be carbonic acid gas exhaled from the lungs of the imprisoned men; but all this would be immediately absorbed as it came in contact with the surface of the water, as water is capable of absorbing rather more than its own volume of carbonic acid gas; and, under pressure, it will take up a much larger quantity. Thus, the poisonous carbonic acid gas, being half as heavy again as air (1529 : 1000), would (the mine lying at an angle of 1 in 6) fall to the lowest point—the surface of the water, and be absorbed by the constant ripples caused by the dipping of the tank and gradual lowering of the surface of the water by the combined action of the large pumps and the tank, producing, as they no doubt did, a sort of tidal or oscillating motion of the water at the point where the men were. Besides this purification from carbonic acid gas (there being a difference of about 30° of heat between the contained air and the water), there would be a constant circulation of the contained air taking place near the surface of the water, which air the poor men describe in mistake as coming from the tank. This circulation would be caused by the condensation of the heated air upon the cold water, and by the absorption of the carbonic acid gas; and the more the water was agitated at its edge the purer would be the air at that point; there would, in fact, be a revolving current near the edge of the water, in which the heads of the men would be about the centre, when in a sitting position.

The surface of the water exposed to the action of the carbonic acid gas in a gate-road lying at an angle of 1 in 6, 10 ft. high and 10 ft. wide, would be 600 square feet, which would be a considerable surface for the condensation of heat and absorption of carbonic acid gas. It might be said that the same cause which produced an increased quantity of oxygen in a given bulk of compressed atmosphere would also occasion a greater quantity of azote; but it should be borne in mind that the oxygen is the vital principle, the action of azote upon the system not being poisonous, as is the case with carbonic acid, and that a man would live longer in a compressed atmosphere than he would in a rarer medium, where the relative proportions of azote and oxygen were the same. If it be admitted, which it must be, that the amount of carbonic acid gas exhaled from the lungs under ordinary circumstances is due to the quantity of fuel (food) consumed, then it must follow that the less food taken, and the less activity of the body (as was the case), the less oxygen would be required for its combustion; and, therefore, not only would less oxygen be necessary to support life under such circumstances, but also the less carbonic acid gas vitiating the air would be evolved from the system. Hence, under the circumstances of the present case, life might be preserved with a smaller proportion of oxygen in the air than under ordinary circumstances of life.

And thus it may be that to the combination of these circumstances is due the apparently wonderful, and certainly unexpected, preservation of these poor men's lives; and I would most strongly recommend in all cases of similar inundation that a calmness of purpose should be observed by the entombed workmen, keeping to the water's edge in all cases, and by every exertion in their power laving and disturbing the water at its margin until, if possible, rescued in time; and a similar agitation of the water should, if possible, be kept up at the pit bottom by drawing at the water with a tank or barrel. Primarily the saving of life in this case was due to the powerful pumping and winding tackle, which sustained its heavy work without breakage to the last, and to the admirable arrangements made by the Earl's agent, Mr. Frederick Smith, and his mine agents. Nothing could have exceeded its efficiency or the management. An exaggerated report appears to have got into some of the papers that the pumping plant cost 25,000*l.*, and in others that it had cost his lordship that large sum to rescue the sufferers. Nothing could be so ridiculous. The plant, I should think, would cost about 7000*l.* or 8000*l.*, and the cost to rescue the sufferers, beyond the usual and necessary cost of pumping the water, would be about 500*l.* or 600*l.*

Trusting the heroic and noble services of the exploring party will meet with the reward they so well deserve, and that these crude remarks may lead to some little good, is the wish of—

Dudley, April 19. HENRY JOHNSON.

COAL-CUTTING MACHINERY.

SIR,—With your permission, I shall be glad to have the opportunity of replying to Mr. Firth's letter, in last week's Journal, and kindly to inform him that I am not in any way wishful or desirous to take any credit to myself that Messrs. Firth, Donisthorpe, and Co. are really entitled to; neither should I have said one word on this important subject had it not been intimated to me, by one of the firm, that they intended conjointly to try to stop both me and all other inventors of Coal-Cutting Machinery from selling or using them with compressed air, for I know very well that, so far as the credit of inventing successful coal-cutting machines goes, they have but very little to boast of (if we take away what was done by Ridley and Rothery) from the upwards of 20 patents which they now say they have. What is then left is of little credit or value to those who hold them. All I want is to use my own without their interference, and I will not trouble them; while I am glad to be able to say to the mining world that I have something tangible—a machine suited for the kind of work to be done—and I have the honour of saying I am the inventor as well as patentee. In my opinion, all that Messrs. Firth and Donisthorpe deserve credit for (if there is any credit) is that they have spent a large sum of money in trying to do something which was already done before they commenced; therefore, who could expect any other results than large expenditure, especially when gentlemen happen to have plenty of money, and are determined not to be beaten by men of little capital. They generally go on regardless of expense, and, if my memory serves me right, Mr. Firth said some years since that before he would be beaten by Mr. Ridley and I he would spend 40,000*l.*; but that is no proof of his ability in constructing coal-cutting machines. They have spent a larger sum, I believe, but yet we must not credit all that is said on this point, as I will show you by facts. Mr. Firth, in his letter, appears to wish your readers to understand that they spent 500*l.* in proving the machine of March 30, 1861 (Ridley and Rothery's patent) to be worthless. I say they did not spend 500 pence. The machine was made at Wakefield, and not at their works, nor at their expense. There was, I believe, some slight alteration done to it at their works, and it was tried, with their permission, on May 21, 1861, and cut 5 yards 2 feet deep in an hour by manual labour; it was tried again on May 22, in the presence of Mr. Bower, who was then the managing partner, and he (Mr. Bower) had to report on the capabilities of the machine to Messrs. Firth and Donisthorpe. If it were worthless, why did they not abandon it at once?—they had the opportunity. This was all done before they paid one penny. The agreement was not entered into until June 27, 1861, and at that date Mr. Ridley entered their service. I should like to know what was expended in proving the practicability of the machine patented May 22, 1861, No. 1302 (Donisthorpe's patent), which was got immediately after our machine had come to the colliery, and had been examined by these gentlemen. If space permits I will refer to this machine again.

Mr. Bower's report to those gentlemen was that the machine could be made to do the work, but it would require power to drive it; then comes the question, what kind of power would be suitable? Mr. Ridley and myself said to Mr. Bower, even in the pit, that compressed air would be the likeliest. Mr. Bower's reply was that if we caused compressed air at 40 lbs. to the inch to enter one end of a pipe we should not perceive it come out at the other, the two ends being half-a-mile apart. This being made known to Messrs. Firth and Donisthorpe, one of the two proposed to lay down half-a-mile of pipes at Mr. Donisthorpe's mill, at Hunslet, and attach an air-pump to the engine, to try the experiment. On this being submitted to Mr. Ridley he refused to have anything to do with it, being quite satisfied of the practicability of driving the machine by compressed air. Mr. Firth never suggested the use of compressed air to me, and I have heard Mr. Ridley say he never did to him; but, even if we allow Mr. Firth to have said this, there is nothing in it; it is not new, he can make no claim to it; and it is not the suggesting of the air, it is the forming of a suitable machine adapted to the peculiar kind of work required to be done, for we find in the Blue Book by Messrs. Johnson and Dixon, of Northumberland, dated February, 1856, it thus stated: "We would remark that for working those machines we prefer to employ air compressed at the mouth of the pit to a pressure of about 50 lbs. to the inch, and conducted into the mine by mains," &c. In 1854 we find coal-cutting machines invented by Mr. Peace, of Wigan, manager of the Earl of Balcarres' collieries, and worked by compressed air; and in 1852 Mr. C. H. Waring's patent, thus—"In working coal machines by the power of air the air is compressed by an air-pump or otherwise, and conveyed in pipes to the machine." Mr. Firth might as well say he suggested that those gentlemen should use compressed air. I should as soon believe the one statement as the other.

This brings us now to the November patent, No. 2977, with which Mr. Firth says, "I have no connection." I think he has made a mistake here in the number, for we are now at the date of this patent going on under the agreement of June 27, 1861, which he drew up himself; and there are two November, 1861, patents, one No. 2975. With this one I do not wish to have anything to do, or "connections;" this was Mr. Firth's patent, which I will call No. 1 patent. As this patent has always been kept behind the screen, I suppose its owner himself was not proud of it since his recent improvements. I will just explain to your readers the mechanical arrangement of No. 1, Firth's patent. Of course, compressed air is the power applied, which actuates a hammer, which hammer is to hit a piece of iron, called a cutter, and to be managed by the person attending the carriage, such cutter to be driven by repeated blows of the hammer till a sufficient distance is cut into the coal, then it is to be drawn back, either by the attendant or by a chain ready for another cut, and in this way he proposes to cut the requisite upright and horizontal grooves. Now, if Mr. Firth means as he says, the November patent, No. 2977, then I say that Mr. Ridley and myself have really and truly invented this one, as we did that of March 30, and by the then existing agreement Mr. Firth's name had no right to be in that patent, for he was not an inventor in any way.

Mr. Donisthorpe never invented the direct-action motion applied to coal-cutting; Mr. Ridley did that for him, in the first instance. Mr. Donisthorpe certainly took out a patent "on the principle of the straight action," as Mr. Firth calls it, and he then came to the colliery with his umbrella for a model, and the engine was then made for him. This is Mr. Donisthorpe's first patent for coal-cutting. I almost wonder that Mr. Firth has referred to this patent, for I should say Mr. Donisthorpe will have often wished his name could have been erased from it. I will just refer to the ingenuity manifesting itself in the mechanical contrivance and inventive skill introduced into this patent of May 22, 1861, No. 1302 (Donisthorpe's patent), and starting point, wherein he makes such broad claims, thus—"But what I claim is the combination of picks or tools, with carriage, in such a manner that the picks or tools may be supported and guided, and moved to and fro, as herein described." Imagine a kitchen poker with a cross handle fixed at the nob end, the poker to be moved to and fro, sliding on two small wheels; and on the top of the poker also are other two small wheels to keep it in position; the whole is carried on a carriage on wheels, the motion to be given to the poker by manual labour, and in this way Mr. Donisthorpe claims that a man shall do that which is impossible for a 20-horse engine to accomplish—that is, to push a pick-pointed bar of iron 3 ft. into the coal (his drawing shows a pick-point, and not a cutter). Let any mechanic or mining engineer just examine the three patents—March 30, 1861 (Ridley-Rothery patent), May 22, 1861 (Donisthorpe's patent), and Nov. 26, 1861, No. 2975 (Firth's patent), and the mechanical and inventive skill of those two latter gentlemen in mining will be found manifest. Referring, again, to the patent of March 30, 1861, which I sold under the agreement of June 27, 1861, I ask, if worthless, why pay the 100*l.* stamp duty? I say it was novel and useful, and the specification is sufficient, and they will find some difficulty to prove that at the least 45 per cent. of this patent does not yet belong to me. I can assure you I have the authority of gentlemen on whose word I can rely for my making this assertion.

There is much yet on this subject that I should like to say, but I am afraid I am taking too much of your space. J. ROTHERY.

Leeds, April 21.

GEOLOGICAL NOTES ON COAL—No. II.

SIR,—Frequently large fissures or dykes, filled with some kind of volcanic rock, trap, or basalt (called whinstone in the North of England), are found intersecting many of the coal fields. In the neighbourhood of these dykes the strata are often considerably altered in their character; the shale is hardened into slate; the coal is converted into a kind of stone coal; the limestone and other rocks are rendered crystalline in their texture. But other significant changes have also been produced. Thrown up, no doubt, from below with a tremendous force, these dykes have rent and shivered the solid strata, upheaving or depressing the coal beds, in some cases hundreds of feet, and in others hundreds of yards. When such displacements of the coal beds occur they are generally called "faults" or "throws."

In the Dudley coal field there is an instance of a dyke of green rock or trap having found its way through the various strata below, and risen to the surface. It has separated the coal beds some 140 yards, which evidently were once horizontal and continuous. It has elevated the strata 90 yards on one side, and given to the ends of beds on the other side an upward twist.

But "faults," although in morals not by any means desirable, are in the coal measures frequently advantageous. They render some seams easier of access; and, what is still more important, they sometimes act as coffer-dams, preventing a large body of water, which may accumulate in one part of the coal field, from overflowing the workings of another part. Thus, in 1825, a shaft was sunk at Gosforth, near Newcastle-on-Tyne, on the wet side of what they call the 90-fathom dyke, which there intersects the coal field. They found it almost impossible to carry on the workings from the excessive flow of water. They sunk, however, another shaft on the other side of the dyke, which proved to be the dry side, and encountered no impediment from water. Hence it follows that though these disturbances are often felt to be great annoyances, they are not always opposed to the interests of the miner.

Then as to some of the strata closely connected with the coal beds. These strata are chiefly sandstones, shale, limestones, ironstones, and clays. The sandstones have evidently been at some period loose particles of sand. The shales are mainly dark coloured, and more or less impregnated with coaly matter; and from their texture must have been at some time soft mud deposited in water. The limestones are often earthy and impure in their composition. The ironstones are chiefly found either in stratified layers as claybands and blackbands, or in nodules or lumps. The blackband ironstone when abundant is very valuable; it is easily smelted, inasmuch as there is sufficient coaly matter combined with it to calcine the ore without any artificial, without any additional fuel. As to the clays, many of them are fire-clays, and are extensively used in the manufacture of furnaces, retorts, and glass-house pots, having the property, in consequence of their being destitute of lime or iron, of bearing a great heat without the formation of any slag or dross. The geological position of this fire-clay is mainly under the coal, and is generally spoken of as the under clay. It is supposed to be the soil in which many of the coal plants grew.

Having pointed out the geological position of coal, and the mode of its occurrence, let us now ascertain how it stands in the mineralogical scheme accepted in the scientific world.

Coal, then, belongs to the seventh order of minerals, called inflammables, and constitutes the third family. This family embraces five species—graphite, anthracite, common coal, lignite, and peat. Graphite is a carburet of iron, or in other words, is composed of carbon and a small quantity of iron. The word itself means writing stone, the substance being used for pencils. It is otherwise called plumbago or black lead, from its appearance, although there is not a particle of lead in its composition. Anthracite is a lustrous kind of coal. It is sometimes called stone coal, being almost entirely destitute of bituminous qualities. The word anthracite is derived from a Greek word, signifying carbon—that being the chief element of its composition, and having little hydrogen, which is one of the main elements of caking or gaseous coal. It burns with a little or no flame. It is principally obtained from our Welsh coal fields. Next comes common coal, of which there are several kinds—such as caking coal, which has the property of caking together when burning; and cannel coal, a jet-like variety, containing more bitumen than any other kind of coal, and said to derive its name from the candle-like flame which it gives when burning. It is extensively used in the manufacture of gas. There are several other sorts, having characteristics peculiar to themselves. Another species of coal, distinct from all those we have already mentioned, is lignite or wood coal.

Now, the best English coals have a crystalline texture and jet-like lustre, but lignite exhibits a woody structure. They contain but a small quantity of water, but lignite often contains 10 per cent. of water. The best coals burn with a bright flame, and give out a great heat; but lignite burns with a dull flame, and yields much less heat. They leave but a small quantity of ashes, but lignite in general leaves a great deal. It is sometimes called brown coal, from its appearance. It is worked at Bovey, Devonshire, and in various places on the Continent. Lignite does not occur in stratified layers or beds, but in lenticular masses.

Lastly, we come to the latest and least changed species of the coal family—peat. Peat is the accumulation of successive layers of reeds, rushes, grasses, mosses, and other plants. It is found in all "stages of consolidation, from the loose fibrous turf of the previous summer to the compact lignite-looking peat formed thousands of years ago." Vast areas of this peat-moss, varying from 2 to 40 or 50 feet in thickness, are to be found in many countries. Besides enclosing the trunks of trees, they sometimes contain the bones of animals, the most remarkable of which belonged to a large deer, sometimes called the Irish elk. Occasionally the peat-bogs yield arrow-heads, stone axes, and other remains of human manufacture, and even the bones of man himself.

Here, in concluding this paper, I may refer to a substance often looked upon as a species of coal. I mean jet. But jet is rather a species of amber than of coal. It somewhat resembles cannel coal in appearance, but it differs from it in being less heavy and more resinous in its composition. It is evidently of vegetable origin, is found in great abundance in the alum shales that line the Yorkshire coast in the neighbourhood of Scarborough and Whitby, and is manufactured in those towns into mourning ornaments.

M. A. MOON, F.G.S.

A NEW METHOD FOR TREATING SULPHURETTED ORES.

SIR,—A new method for treating ores, invented by Dr. Charles D. Williams, of St. Paul, Minesota (U.S.), in which the operation of desulphurising and chloridising, or chlorinating, such ores is performed simultaneously with the roasting of the same, has recently been experimented upon in a practical way at Colorado, and has demonstrated beyond a question of doubt its entire success and utility in working sulphuretted gold and silver ores. The *modus operandi* of this method is very simple, and without doubt will come into general use at an early day. The furnace in which the ores are treated is constructed on the reverbatory plan, and is built with ordinary brick, provided with a grate in the usual manner. It is erected upon a suitable foundation, and consists of two parallel vertical walls, which terminate in an arch at the top, the end enclosing walls being of the same material as of the sides—ordinary brick. From the fire-box to the rear of the furnace are partition walls, running parallel to the side walls, and which divide the passage for the products of combustion into three distinct flues, and they also serve as supports for the sole or hearth upon which the ores rest while being roasted. The flues or passages from the fire-box to the rear end of the hearth through which the heated products of combustion, arising from the fuel on the grate, pass serve the purpose of heating the lower portion of the ores on the hearth. These flues at the rear end unite with a short vertical flue, through which the heat ascends to the chamber containing the ore, where it is further utilised in heating the upper surface of the ore, and from the front end escapes through a pipe to the atmosphere. The plate composing the bottom of the chamber rests upon the projection formed in the side walls of the furnace. Its lower surface is exposed to the action of the fire, whilst its upper surface is covered with soapstone, which serves the purpose of preventing injury to the metal, consequent upon the presence of the sulphur which is found in the ore. The metal arch comprising the roof of said chamber is also protected by soapstone blocks for a distance vertically of 6 inches, or so far up its sides as the ore may extend. In the top of the arch is a hole, about 5 inches in diameter, through which the ore is fed to the desulphurising chamber. At each end of the ore chamber are doors, for the purpose of inserting a rod or shovel, for agitating the ores during the operation of desulphurising and chloridising. At the side of this furnace is constructed a small furnace, provided with a grate and door, for the insertion of fuel and removal of ashes. This furnace is divided into two compartments by means of an iron plate, the lower partition forming the fire-box, and the upper the chamber in which the chlorine gas is generated for use. The upper chamber is provided with a door, through which is inserted a cup or basin, of sufficient capacity to receive the gas-generating vessel; this cup is filled partially with water, for the purpose of forming a bath for a glass vessel, in which the chlorine gas is generated. The said vessel is placed within the cup or basin, and is provided with an aperture in its top, for the insertion of the materials from which the gas is generated, which aperture is provided with a stopper, which screws tightly therein, so as to prevent the possibility of leakage. It is also provided with a pipe, which is secured to its upper surface, and which communicates directly with the ore chamber in the first-mentioned furnace, and is for the purpose of conducting gas generated in said vessel to said chamber. In the rear of the roasting chamber is a trough or chute, for the purpose of conveying the contents of the chamber to an iron box or car.

THE OPERATION.—The furnace having been constructed as above described, the ore to be treated is passed through the aperture in the top of the ore chamber, and is evenly distributed over the sole or hearth. When the fire is kindled in the roasting furnace, and as the heated gasses pass to the rear they impinge against the bottom plate of the sole, thus imparting a portion of their heat to the lower portion of the ore. They then pass through the vertical flue at the rear of the chamber, and into the space in said chamber above the ore, and to the outlet in the front end or top of said chamber, thus imparting the remaining portion of the heat, or a large portion thereof, to the upper surface of the ore upon the hearth. Simultaneously with the kindling of the fire in the furnace a fire is lighted in the gas-generating furnace, in order that so soon as the ore commences to be heated a stream of chlorine gas, generated from muriatic acid and manganese, also sulphuric acid (material contained in the generator), shall commence passing into the space in the chamber, thus envolving the upper surface, and filling the interstices between the parts or particles of the ore upon the hearth. It being a well-known fact that chlorine gas is heavier than the products of combustion arising from burning fuel, or the vapours arising from the ore while being roasted or treated in the furnace, it follows, as a consequence that the gas will remain in intimate contact with the ore upon the hearth, while the vapour from such ore, and gases from the fuel, will be compelled to rise through a much heavier and more dense medium, and it is believed that, as a consequence, a very large portion, if not all, of the particles of metal which usually pass off with the vapour or fumes of the ore will be arrested by the enveloping or intervening strata of gas, and be retained and mingled with the ore as chlorides.

When the ore is desulphurised it is drawn from the furnace, and put into barrel amalgamators, when water is introduced, which places the chloride of gold into a solution. A solution of the sulphate of iron is then introduced, to precipitate the gold, and metallic iron is introduced to precipitate the silver and copper, if any. These chemicals, thus introduced with the ore, are agitated by the barrel being set in motion, and allowed to run for three hours, at the end of that time quicksilver is introduced, the barrel again set in motion, and allowed to run six to eight hours, when it is washed out, retorted, and put into a merchantable shape.

Parties wishing to learn more of this method are referred to Mr. M. R. Jefferds, of the North American Bureau of Mines, Illinois.

Chicago, March 10. QUILP.

DYNAMITE AS AN EXPLOSIVE POWER.

SIR,—Writers in scientific journals ought to be masters of their subjects, and truthful in their statements. The article which appeared in the *Mining Journal* on Saturday last, on improved blasting powders, contains the following paragraph:—

"It appears that Dynamite does not give satisfaction except in very sound rock, and that when used where there are seams or fissures a large proportion of the power is lost."

This statement, which *is untrue in fact*, was by no means necessary to the description of Hafeneggar's explosive powder. The article would read quite as well without it, and the impression conveyed is gratuitous and incorrect. One of the great advantages claimed by Mr. Nobel for Dynamite is that the quickness of explosion is so great that the most fissured rocks and even clay are easily blasted with it. In this respect it bears a marked contrast to almost all other blasting compounds, for though Dynamite explodes with wonderful quickness in fissured rocks or in the open air, other blasting compounds will under similar circumstances burn away without exploding, or only partially explode, and with little or no effect.

We have not had the advantage of seeing any of the new explosive powder of Hafeneggar, but can well understand that the experiment mentioned in the *Mining Journal* produced the results stated, feeling well assured from the experiments we have made with Dynamite that it, at all events, would under the circumstances stated have produced similar results. We some time since broke into pieces a large salamander, or mass of iron, which had accumulated at the bottom of a blast-furnace, and was calculated by admeasurement to weigh between 120 and 150 tons, the drill holes being 2½ and 3 in. diameter, and the charges about 5 lbs. of Dynamite, well tamped down.—*Carnarvon.* WEBB AND CO.

THE WIRE-ROPE TRANSPORT SYSTEM.

SIR,—I read the observations by "H. K. B." on the Wire-Rope Transport System whilst surveying for some lines near the Simplon route, in Upper Italy, but time and distance prevented my replying in last week's Journal. I am much obliged for his suggestion that the experience of the Tail-Rope Committee may be usefully employed in judging of many points in the practical working of the system which I am now applying. I had already received a communication from Mr. Bainbridge, of the Seaham Collieries, who assisted in the investigations of that Committee, and I look forward to deriving much benefit from the enquiry which he proposes to institute as to the economical working of wire-rope tramways. My own impression is that with their great advantage on the side of capital, to set against the disadvantage of greater wear in ropes than in rails, the system will probably compare favourably with ordinary tramways anywhere but in those exceptional localities where a perfect level can be obtained without earthwork or engineering difficulties of any kind. "H. K. B.'s" doubt as to the possibility of uniting several mines by branches would at once be removed by a visit to Bardon Hill, where he would observe that for the purpose of delivering the boxes in succession on to the rope at one end, and from it at the other, each is provided with wheels to run upon a rigid rail. A system of shunting being thus established, it is easy to see that branch lines can be united with a main line at any desired point. As to the tractive effort necessary, till Mr. Bainbridge has investigated the matter it will be somewhere between that of 1-30th necessary on a good common road, and the theoretical co-efficient of 1-300th never practically attained, except on the permanent way of first-class railways. To "H. K. B.'s" question—"How many separate loads of 2 cwts. each could be supported on a rope which would break under a single weight of 2 tons?" I reply, none at all. To carry 2 cwt. loads I would employ a rope with a breaking strain of at least 6 tons, and regulate the number of such loads borne upon it by the number of supports per mile which it was found convenient to employ. To the theory that the ultimate limit of 3 cwts. must be assigned to each individual load, I may fairly be allowed to take exception. The Bardon rope is 1⅛ in. in circumference, is of puddled iron-wire, and carries 1½ cwt. loads with great ease. It is a mere matter of arithmetic to determine the proportion between section of ropes and weight of load, the limit of weight being arrived at commercially when the cost of the rope and its supports become so great as to render rails, earthworks, bridges, viaducts, and tunnels more economical arrangements for accomplishing the desired result. This limit of weight will, however, be a very long way ahead of what "H. K. B." supposes. His last question, as to "the maximum weight to be carried over a line of 10 miles with a rope 3 in. in circumference, and the size of the engine required," is one which should have been rather more clearly defined, as to quality of rope, speed admissable, length of single spans necessary, and a host of other conditions, varying with different localities; but I have based the calculations for several wire tramway lines now surveyed and contracted for on principles which would place the delivery by such a rope at about 200 tons a day, live load, in one direction, and the size of the engine required at about 50 nominal horse-power.

London, April 23. C. HODGSON.

MINERAL WEALTH OF IRELAND—No. II.

ON THE APPLICATION OF THE SURPLUS REVENUE OF THE IRISH CHURCH TO THE DEVELOPMENT OF IRISH MINING.

SIR,—Before proceeding to discuss the practicability and expediency of applying the surplus property of the Irish Church to the development of the mineral resources of Ireland, it is necessary to examine briefly the Government proposals, in order to ascertain how far they tend to benefit generally, effectually, and permanently the Irish people; for if I could in reason and conscience believe this great desideratum to be their certain or even probable result, I should be the last to interfere; but the more I consider the subject (from the nature of the official plan I happen to be able to bring some personal knowledge and experience to bear upon its elucidation), the more I am satisfied that the ostensible benefits held out by it to the Irish poor are illusory, and that the only ultimate gainers by its adoption will be the owners of real property in Ireland.

In saying this I beg to be understood as entirely acquitting the present Government of any desire to repeat the misdeeds of some of its predecessors, by allowing the kind feeling of the British people to be used as an instrument for facilitating Irish jobbery. Nor do I believe that the great reform party would permit what in its sight must appear a solemn act of national reparation and atonement to be degraded into a mere manouvre for gratifying the cupidity of Irish landlordism. But, as an independent thinker, I am forced to the conclusion that this part of the Government measure is precipitate and ill-digested, and that, considering the very brief time allowed for its preparation, and the variety, importance, and difficulty of the other points involved, it would have been more prudent to allow the precise mode of utilising these funds in the promotion of Irish interests to remain for future investigation.

My objections to the Government plan are twofold. It proposes to fritter away in the mere temporary alleviation of suffering millions that carefully handled might ultimately enable the Irish people to dispense with Government eleemosynary aid altogether; while it virtually gives to the wealthy few that public money which of right should be used for the welfare of the many. Let me say a few words to show that these assertions are not rashly or vaguely uttered, and then pass on to the more immediate object of this communication.

The English pride themselves upon being an eminently practical people, and, perhaps, in nothing is this so-called practical spirit so curiously evinced as in their mode of dealing with the great evils which afflict society. Let a human being be only utterly and completely wrecked, physically, mentally, and morally, and British philanthrophy and British statesmanship at once take him under their joint protection, and lavish on him the most profuse and tender care. His residence must henceforth be palatial, his diet, his clothing, his health, his comfort, his mental amusement and cultivation, and his spiritual well-being, are each and all the objects of unceasing solicitude to a numerous and well-paid staff of officials, who are themselves superintended by more highly trained and more highly remunerated public functionaries. But attempt to trace pauperism, crime, and mental and bodily disorders to their causes, with a view to the removal, as far as may be, of the latter, and instantly the British practical spirit is aroused to anger, and you run the risk of being sneered at as a visionary, or denounced as a heretic. And yet if the English middle classes would only think calmly on this subject for a moment, what have they gained by waiting in this way for an evil to be full grown and complete before acting against it? They have simply gained an increasing and apparently interminable burden of local taxation, beneath which they themselves are now writhing. And with this experience here, are they prepared to regard an extended Poor Law as the true panacea for Ireland, and a board of Poor Law Commissioners as the guardian angels best fitted to watch over its social regeneration?

What is the chief cause of pauperism in Ireland, as elsewhere? Insufficient employment. What are the chief causes of excessive sickness, mortality, mental disease, and generally of physical deterioration and suffering amongst the Irish poor? The effects of insufficient employment, such as defective nutrition, scanty clothing, overcrowded and ill-constructed houses, dirt and discomfort, and their moral concomitants, grief, anxiety, recklessness. Is it, then, the duty of humane and prudent statesmen, having large funds available for the benefit of the Irish poor, as part of the Irish people, to apply them as far as possible to the prevention of the causes or the palliation of the effects of pauperism and its attendant evils? Again, imagine a regiment of Government nurses patrolling Ireland, in order to prescribe beef-tea and mutton chops in the cabins of poor wretches scarcely able to buy salt and potatoes!

My second assertion I might well be content to rest upon the statement of the Conservative leader in the House of Commons—that the Irish landowners alone would ultimately benefit by the proposed application of the surplus property of the Irish Church. And I am satisfied that every reflecting and unprejudiced mind, capable of forming an opinion at all on the subject, must eventually arrive at the same conclusion. But it so happens that in England and Scotland property at least attempts to discharge its duty towarde the poor, while in Ireland it certainly has not done so in the same degree; and, in the usual illogical spirit of our statesmanship, *therefore* Parliament, out of funds belonging to the people, is in Ireland about to relieve the great landowners, many of them absentee noblemen, of that charge for the afflicted and necessitous which in great Britain is met by local taxes and voluntary contributions! How natural that some of the legislators, to whom all this appears the acme of political wisdom, in their zeal to discourage legitimate means of employment for the people, should seriously propose to tax mines.

[*To be continued in next week's Journal.*]

GOLD MINING IN BRAZIL.

SIR,—Having had a statement made by Mr. Oxenford with regard to his two mines, the Emily and Capao, brought under my notice, I herewith beg to enclose it to you, in hopes that you may be able to find room for it in the columns of your valuable Journal. By so doing you will afford the public an opportunity of forming a really just idea of these most valuable mines, which they hardly at present have the means of doing. JUSTITIA.

Under present circumstances I think it right to place before you a few remarks on the Emily and Capao Mines. It is a notorious fact that the parties who obtained the original grants from the Crown, as well as the families of their numerous descendants, worked them for upwards of a century, with such success that a large population was attracted to the spot, from which sprung the city of Sabara. The Brazilian mining laws are founded upon the Justinian Code, and such disputes arose among the members of various families that all working was suspended by litigation. Public attention was attracted, for as mentioned in Capt. Wm. Treloar's printed statement "the report of their riches had spread far and near throughout the country," and among the English desirous of purchasing was Mr. George Vincent Duval, who had them surveyed and strongly recommended to the General Mining Company. Capt. Wm. Treloar also, who had known them for many years, after a special survey of three days, did the same to Capt. Vernon Harcourt, of the Imperial Brazilian Mining Association. By the assistance of Dr. Theotonio Roque Fernandez, my solicitor, who made it pleasant to all parties, I obtained a preference, and effected a purchase on my own account. I then leased them to the National Brazilian Mining Association, but as there was no Deed of Settlement, and the shareholders did not pay their calls, the directors declined undertaking the long and expensive works of the adit and water-course, absolutely necessary for the development of both mines; but they did make a small beginning, by erecting one 6-head stamps at the Capao, which in less than a year yielded 4970*l.* worth of gold, sold in London, as may be seen in their printed report. I increased this stamping power to 27 heads, and continued for a long time all essential works at my own expense, and on leasing both mines to the East del Rey Company I felt assured that the plan detailed in their prospectus would be honestly and honourably carried out, when great success would have been certain. It was therein distinctly stated that "this company forms an exception to mining undertakings generally, as it assumes more the character of a commercial enterprise than a mining adventure, and, following the successful example of the St. John del Rey Company, it in a great measure relies for a large produce, not on the discovery of gold veins or bunches, but on the application of a vast mechanical power on auriferous lodes already laid bare, and many of them worked upon for upwards of a century." Now, is it or is it not true that this vast mechanical power at the Emily has been confined to one 9-head stamps acting for a very short time on one lode?

The first duty of Capt. William Treloar was obviously to extend my water-course, which was advanced to less than a quarter of a mile of the desired spot of the Capao, and although the constant excuse was want of water it has never been extended a single yard. The next effort of common sense would have been to complete my adit, already advanced half-way, for the unwatering of the Capao Mine. It has never been touched. Upon what, then, has the large capital been expended? Certainly not on the Emily and Capao Mines. I will bring another fact under your notice. At the meeting of Nov. 10, 1866, it was stated, "the last month's produce, entirely from the Sao Vicente, had risen to 2654 oits." The Emily and Capao Mines being abandoned, and the stamps and mining force removed to Sao Vicente, would naturally have ensured a very large increase of produce, provided the gold had come from that mine. But what was the result of the cessation of works at the Emily? An immediate falling off of the gold, soon reduced to less than a half, in spite of the application of a double mining and stamping power. The question then arises, Where did the reported 2654 oits. come from—Sao Vicente, or the Capao and Emily? I leave the answer and the inference to your own sagacity. The acting captain wrote to me on the subject from California, stating his astonishment, and that of the gold washers, at the stoppage of the works, which everywhere promised sure and great success. Examine the reports previous to this wicked injustice:—"Capao lode 24 ft. wide. Large trial test of 34 tons produced 174 oits. of gold, equal to 5 ozs. 11 dwts. per ton. Gold visible on the stone." (July 24, 1864.) "Lode maintains its size and quality; never saw it look better."

It was not without some experience, and perhaps a little gold mining knowledge, that I bought the Emily and Capao Mines. I had already purchased the Gongo Soco, which in a few years paid upwards of 300,000*l.* in dividends. It was abandoned by Capt. Wm. Treloar, and purchased by Senhor Paulo Santos for a comparative trifle, who has extracted from it enormous quantities of gold. I had 1-16th part of Morro Velho, bought of Capt. George Francis Lyon, of North Pole celebrity. I sold it for the purchase of the Emily and Capao. I had known them for many, many years. The stone of the Capao is the exact counterpart of the Morro Velho in its best days, except, as Capt. Thomas Treloar remarked, that the former more frequently shows gold in the stone. He is an honest man, and will not, I am sure, deny the truth. Senhor Manuel Vianna, one of the most respectable inhabitants of Sabara, wrote to me with congratulations on the beautiful ore extracted from the Capao. *Pedras douradas d'ouro.* I understand that at the office it was asserted that my mines had been worked out, this applying to one mountain 402 ft. high, with numerous auriferous lodes cropping out from the surface to the base, "whose results in the shape of samples had been very encouraging;" and to another mine, the Capao, scarcely 20 fms. deep, with a lode 24 feet wide, showing gold at the bottom, and constantly improving in depth, is an assertion that I forbear commenting upon, as I do not desire to give offence.

CHIVERTON AND MINERAL BOTTOM AMALGAMATION.

SIR,—I trust the letter in your valuable Journal last week will be the means of drawing the attention of the Chiverton shareholders to an act of folly which they appear to be determined to perpetrate by an amalgamation with the Mineral Bottom Company. What possible advantage can the Chiverton shareholders gain by such an amalgamation? We are told that one of the finest lodes that has been discovered for years has been found in the Chiverton Mine, and, in lieu of a call as heretofore, at the last meeting we had a trifling balance in hand, and a month or more since, in addition to this, we had 40 tons of lead ready for sale, which quantity has, doubtless, considerably increased since that time; and yet, with all these advantages, and the mine improving in every way, we are asked to amalgamate with a company which has ceased working for years, and whose shares have within a short period been sold for 1s. 6d. each. I am willing to admit their shares have been recently quoted at 4*l.*, but this rise in the shares can be from no other cause than a chance of amalgamation with Chiverton, as the Mineral Bottom Mine cannot be in a better or worse position than it was when it ceased working. We have been told that an amalgamation would improve the price of Chiverton, instead of which the very reverse has been the case, as shares that were some time since worth 6*l.* are now only saleable at 2*l.* 15*s.* We heard a good deal at the last meeting about the sharp practice of the Mineral Bottom Company; but, in my opinion, they are simply looking after their own interests, and the sooner the Chiverton shareholders follow their example the better it will be for them. I can see no reason why the whole body of the Chiverton shareholders should be sacrificed simply because a few of them have an interest in Mineral Bottom. A great deal was said about lawsuits at the meeting, should we not amalgamate. I presume, however, they will allow us to work our own mine. In conclusion, I very much hope that the Chiverton shareholders will give an emphatic No to their ruinous proposition. Their expenses up to the present time must be trifling. Let them at once be examined and discharged; let the mine be properly and honestly worked, and I, for one, have not the slightest fear as to the result. A SHAREHOLDER.

London, April 20.

CENTRAL SNAILBEACH MINING COMPANY.

SIR,—The statement of your correspodent, "A Shareholder" (Salop), in last Saturday's Journal, that a report from Capt. John Kitto, March 15, was issued to some of the shareholders but not all, is simply untrue.

I enclose you a printed copy of the circular in which the report in question is inserted, and which was forwarded to every shareholder to the address in the company's books. The remainder of your correspondent's letter I leave to Capt. Kitto, should he think it worth an answer. THOS. THOMPSON, Sec.

Old Jewry Chambers, London.

BURRA BURRA AND YORKE PENINSULA MINING COMPANIES.

SIR,—It is reported that a recent exploration of the Burra Burra Mine has laid open, near the surface, another deposit of ore, similar to that which has yielded the profits paid by that mine for so many years; and it is also stated that it is found to run into the adjoining Bon Accord Mine, belonging to the Yorke Peninsula Mining Company, very near to the boundary of which this new discovery has been made. From the position of the parties making these statements there can be little doubt that some such event has transpired in the history of these companies, and it may, therefore, be asked why the shareholders in the Yorke Peninsula Company have not received official intimation of so important a fact, especially when their hopes have been so long deferred that the shares may be had almost for the asking—the holders thus parting with their shares at nominal prices, in ignorance of their real value and prospects. INVESTOR.

Meetings of Mining Companies.

ANGLO-BRAZILIAN GOLD COMPANY.

The sixth ordinary general meeting of shareholders was held at the London Tavern, on Thursday,—Mr. HENRY HAYMEN in the chair.

Mr. JOHN E. DAWSON (the secretary) read the notice convening the meeting. The report (which appeared in last week's Journal) was taken as read.

The CHAIRMAN said that, in rising to give an account of their stewardship for the past year, the board very much regretted that they were not in a position to declare a dividend, but he thought before he had finished the few remarks he had to make he should be able to satisfy them that whatever might be the condition of the company at the present time the board had done all they possibly could for the advancement of the shareholders' interests, and that the company had in itself a great successful future. (Hear, hear.) At this time last year the board, and also Captain Treloar, were in hopes that there would have been encountered large bodies of lead, of such auriferous nature as would have enabled them during the present year to have submitted a much more favourable result than that now shown in the balance-sheet. But the war with Paraguay had drained their force away from them, which had interfered with the operations for pushing forward the various works, with the view of reaching the "canos," which they believed they would open upon eventually. But they had been, so to speak, going on almost from hand to mouth. A quartz was altogether different from a jacotinga formation, as in the former it was a question of hard work and hard labour, and an enormous quantity of stuff must be brought to the stamps to enable a profit to be realised, without the yield of gold per ton of ore was very large. But there was one very gratifying feature with this company—that although they had had the lowest average percentage of gold per ton of ore, and great difficulties to contend against, the year's operations had resulted in the small loss of only 600*l.*; therefore, he thought there was good reason to congratulate their consulting engineer upon his economic management. He found that other gold mining companies, whose mines yielded a much larger percentage of gold, could not only not make profits, but had a capital account—which was an important item—four or five times greater than the Anglo-Brazilian. His own belief was that the Passagem Mines, when fully developed by a certain amount of labour being brought to bear upon them, would return a very fair interest for the capital invested. As to the labour question, he had endeavoured, as far as it was possible, to obviate the difficulty Brazilian mining companies were in with regard to this matter. He had addressed a letter to the Brazilian Ambassador in this country, asking him to communicate to his Government a recommendation to the effect that the men employed at the mines should, as in other countries, be exempted from being forced into the army for war purposes. If they could only get that done he believed that the Passagem Mines would pay, but the board thought, with Capt. Treloar, that they ought not altogether to rely upon this being accomplished. Capt. Treloar had always expressed an opinion that all mining companies should have more than one property to depend upon, and although he (the Chairman) could not endorse Capt. Treloar's opinion to the extent to which he went, yet he felt anxious for this company to possess another property, and that of a jacotinga formation. At the very earnest request and advice of Capt. Treloar the board decided to purchase an additional property; but there were one or two shareholders who thought the board should have consulted the shareholders upon that question. He thought, however, he should convince those who took this view that the course adopted by the board was for the interest of the shareholders at large. The great success of the Don Pedro Company had, naturally enough, raised the value of jacotinga properties in Brazil. If the board had asked the shareholders to attend a meeting with regard to the purchase of a jacotinga property the information would have gone out to Brazil, and the company would have had to pay probably twice the amount they would now have to pay for as good a property as Maquiné, the mine belonging to the Don Pedro Company. The board had always desired to consult the shareholders on all matters. (Hear, hear.) By the acquisition of this property he did think they would be able at the end of another year to present such a statement as would be satisfactory to the shareholders. He then moved that the report and balance-sheet be received and adopted.

Mr. WILDE seconded the proposition.

After some discussion, the motion adopting the report and balance-sheet was put, and carried unanimously.

Messrs. Quilter, Ball, and Co., were re-elected auditors.

Upon the proposition of Mr. VILLESBOISNET, seconded by Mr. HILL, a unanimous vote of thanks was passed to the Chairman for the able manner in which he had presided over the meeting, and to the directors for their continued attention to the company's interest.——The meeting then separated.

ANGLO-ARGENTINE COMPANY.

At the meeting of shareholders, convened for Thursday next, at the London Tavern, the following report will be submitted:—

The proprietors have already been informed of the unexpected difficulties the company encountered consequent upon the delay in the delivery of the silver smelting works, mines, &c., at Hilario, owing to legal proceedings taken against Major Rickard, and pending the settlement of which he was unable to give the company a good legal title to the same. The important statements sent home by Major Rickard with reference to the gold fields at Gualilan were also made known to the shareholders. These reports were considered by the directors sufficiently encouraging to warrant a further practical examination of the gold mines therein referred to, more especially as the difficulties experienced in obtaining possession of the silver works necessitated a most prejudicial delay. Capt. T. Treloar, the consulting engineer of the Don Pedro North del Rey Gold Mining Company, being in England, was communicated with, and, upon his recommendation, Capt. J. Vivian was selected by the board, and proceeded to the mines. His report, copy of which was forwarded to the shareholders in January last, being considered highly satisfactory, the directors decided to make further explorations with a view to ascertaining the desirability of a full development of the property. The results proving satisfactory to Mr. Barnard, the company's superintendent, and to Capt. Vivian, Mr. Barnard took the necessary steps for obtaining legal possession of the mines. This having been secured, the requisite machinery and stores were at once ordered, and will be dispatched without delay. Some English workmen have also been sent out to the mines, so that no time may be lost in a vigorous prosecution of the company's operations. In consequence of the inability of Major Rickard to deliver possession of the Hilario Works, the directors entered into a fresh agreement with him (by his attorney), which has enabled them to turn their whole present attention to the Gualilan Gold Mines; this relieves the company from the obligation of any payment under the original agreement, until a dividend of 20 per cent. has been earned on the company's paid-up capital. [The above agreement can be seen by any shareholder at the company's office.] Basing their calculations on the reports of Major Rickard and Capt. Vivian, the directors believe that when the operations of the company shall be sufficiently advanced to enable the mines to be worked in depth, which the old native miners were unable to do owing to the want of proper appliances and the necessary mining skill, larger profits than even Major Rickard estimates will be realised, and in the meantime, as soon as the machinery is erected, satisfactory returns will be obtained from the large quantity of "desmontes" or waste ore left by the old miners, and which Capt. Vivian states is all fit for the stamps. The accounts herewith presented have been prepared from the formation of the company to Dec. 31, 1868, and have been audited by Messrs. J. Waddell and Co., whose report is appended thereto.—HENRY HAYMEN, Chairman.

REPORT ON THE GOLD MINES OF GUALILAN

Gualilan, Nov. 12.—These mines are situated in the province of San Juan, Argentine Republic. Their position is all that can be desired, they are extensive, and are on an easy declivity facing the west; judging from the position of the rock formation, and of its composition both for metalliferous deposits and for exploring, it certainly presents every appearance that can be desired by the most scrupulous miner. The workings are wholly in limestone, and the situation of the elvan and cross-courses I consider as highly favourable circumstances. Within the limits of these mines three distinct lodes have already been discovered, which pass through them for a distance of 1320 fathoms, and these are traversed by three known cross-courses and elvan courses, a feature which experience has invariably shown to have been most favourable for the production of large deposits of mineral.—Main Lode: The direction of this lode is 10° west of north, underlie to the west about 4 feet in a fathom; the past workings have been principally confined to this lode, it has been worked on for 700 fathoms in length, and to the depth of about 40 fathoms below the base of the hill. The lode is from 12 to 20 feet in width, it is composed principally of quartz and auriferous iron pyrites, a very fine looking lode, and of more than ordinary promise. There is also a large quantity of inferior ore, both in the mines and on the surface, that will pay well for stamping and dressing. In accordance with the views I entertain of Gualilan gold mines, I recommend the following plan of opera-

tions:—Erect steam stamps of power enough to work 64 heads, and pump the water out of the mines, fix the stamps in a position to receive the gold stuff by inclined plane from either shaft, and where the water drawn from the mine can be conveyed to it for stamping and dressing; being thus prepared, sink shafts and drive levels, and open up new ore ground as fast as possible, and drive cross-cuts at suitable depths to the lodes hitherto worked shallow only, or work them by flat roads from the steam stamps, as may be found expedient. To bring the mines into working order a capital of 30,000*l.* should be calculated on, which, if spent judiciously, and the explorations are carried on with judgment and economy, I think it highly probable that fair returns will be had for the outlay for a long time to come. I have been connected more or less with mines in various parts of the world for nearly 40 years, during which time I have had the opportunity of examining the different lodes and stratifications with the characteristics peculiar to gold, therefore I am giving you my opinion from practical observations, and I urge you on to a vigorous development of the important points hereinbefore described.—JOSEPH VIVIAN.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

CHIVERTON MOOR.—A telegram received to-day states that a good stone of lead was brought up from the 85 fm. level last night (23d).

The PRINCE OF WALES sale of copper ore realised 763*l.*, which leaves a profit of 250*l.* on the month's working.

BUDNICK CONSOLS.—The mine continues to open up very satisfactorily, the best proof being that tribute pitches continue to be taken, which leaves good profits to the shareholders: and as there is already sufficient money provided to increase the stamps, the mine will, it is expected, very soon enter the Dividend List.

HOLMBUSH AND KELLY BRAY UNITED MINES.—The proprietors of these setts, comprising Holmbush, East Holmbush, Kelly Bray, and Upper Redmoor Mines, which are being worked as one sett, are about registering the company under the Limited Liability Act, with a nominal capital fully-paid up. The present proprietors have erected a large amount of machinery, plant, &c., the whole of which has been paid for by the produce of the mines themselves, and which are now making, even before the machinery has gone to work, regular monthly profits. A splendid discovery has been made in Kelly Bray, said to be one of the finest in Cornwall for many years. In our next we shall publish full and detailed reports from the various inspectors. The new 70-inch engine at Holmbush, which will drain the whole of the mines, will be at work on the 6th of May.

DOLWEN.—We are requested to state that at a meeting of directors, on Monday, the remainder of these shares were placed, and that no further applications can be received. The great discovery at Ty-gwyn, formerly part of the Dolwen sett, and close to its present western boundary, has greatly contributed to this result, as proving that for the entire length, west to east, of the Dolwen sett the north lode, upon which the Tw-gwyn discovery is made, is whole, and unexplored for upwards of a mile. Its value in Dolwen may be tested for a trifle, as a cross-cut from the end of the adit level (driven 72 fms. into the mountain side upon the south lode) is expected to reach the north one in less than 10 fms. drivage; and if only as good there as at Ty-gwyn (and as this intersection will be nearly 30 fms. below the surface it may reasonably be expected to be richer), these shares will greatly enhance in value.

WEST ROSE DOWN.—I am pleased to see, by last week's Journal, that Marke Valley Mine is much improved in the 80 fm. level, driving towards the above mine; indeed, from enquiries made, it seems to be a discovery of rich ore, much richer than this mine has generally produced, and worth 4 tons per fathom. The present shareholders should understand that the discovery, or improvement, is only 13 fms. from the boundary of West Rose Down.

CAMBORNE VEAN.—It is with much satisfaction that we report the improved prospects of this mine, for the last 17 or 18 years having made constant and tedious calls on the adventurers, who are now about to reap the reward of their perseverance. This mine has been in a progressive state for some months past, and the darkest hour is often the one before day. At the last meeting, on Jan. 25, one of the largest shareholders quite intended to relinquish his interest, but the improved condition of the different points of operation, with the advance of tin, at once altered his determination. Since the meeting referred to, from some misunderstanding, a few shares were thrown on the market at a very low price; this caused parties in the immediate neighbourhood to make enquiries about the property, and the result is that every share that could be got both in the county and London have been bought. Parties interested in Dolcoath, and knowing the results in that mine of continued perseverance, have eagily bought in Camborne Vean, as they feel sure that the same good fortune awaits them. The character of the tin ore is exactly the same in one mine as the other. Immense returns of copper have been made from the upper levels; and, as is the case in this district, the deeper part of the mine has become productive for tin. At the next meeting, if there is not a balance in favour of the adventurers, no call will be made or required, enough tin having already been sold to warrant this conclusion (1100*l.* worth). This must be most acceptable news to the shareholders.

NEW WHEAL PROSPER.—The first general meeting of shareholders was held at the company's office, Winchester-street-buildings, on Thursday (Mr. Edward F. Rayne in the chair), when it was resolved that the mine be divided into 4000 shares, and that a call of 2s. 6d. per share be made, for the future development of the property. Capt. P. Floyd was appointed agent at the mine, and Mr. John Laity local purser. The agents reported that by the end of next week they will be in a position to set 20 men to work in the back and bottom of the 20 fm. level on tribute.

EAST DELABOLE.—More than one shareholder in the East Delabole Slate and Slab Company will have reason to thank the Editor of the *Mining Journal* for a reference made to the Delabole district in the Journal of April 3, if the directors are thereby induced to prosecute the undertaking with more energy than they have hitherto displayed. Any authentic information respecting the present position of the company will be acceptable to many shareholders.

EAST ROYALTON.—The cutting of the lodes rich in Great Royalton will greatly enhance the value of East Royalton, as it is supposed that all the lodes in Great Royalton pass through East Royalton, intersecting the large elvan lode, where large quantities of tin are expected to be found; and the works can be carried on as open cutting at a small cost.

South Polberrow Tin Mining Company

(LIMITED).

CAPITAL £8000, DIVIDED INTO 4000 SHARES OF £2 EACH.

Deposit 10s. per share on application, and 10s. on allotment.

Balance, if required, to be called for by instalments of 5s. each, and at intervals of not less than three months.

DIRECTORS.

CHARLES MORRIS, Esq., South-street, Grosvenor-square, W., Director of the Bank of Australasia.
F. G. FELLOWE, Esq., Surbiton, Surrey.
LOUIS BAMBERGER, Esq., Bush-lane, E.C., Merchant.

BANKERS—LONDON AND SOUTH-WESTERN BANK, 29, Lombard-street, London, E.C.

SOLICITOR—F. W. SNELL, Esq., George-street, Mansion House, E.C.

SECRETARY—Mr. W. L. ALLEN.

OFFICES,—160, GRESHAM HOUSE, OLD BROAD STREET.

PROSPECTUS.

The object of this company is to purchase the lease of and work a valuable tin mine, called South Polberrow, situated in the parish of St. Agnes, one of the best tin districts in the county of Cornwall.

The sett is bounded on the west by Great Wheal Charlotte, which yielded large profits; on the east by Polbreen; and on the north by Wheal Friendly, Wheal Trevannance, Polberrow, Wheal Kitty, and other celebrated tin mines. It is traversed by the productive lodes of Polbreen and Wheal Kitty, the latter paying regular dividends, and lies parallel with the enormously productive lodes of Polberrow, and other rich mines of the district.

In this sett there are thirteen well-defined veins or lodes, all of which have produced large quantities of tin, and afford evidence of a highly mineralised property. A fine cross-course is in immediate proximity to that part proposed to be opened up, which can be rendered advantageous for cross-cutting to the various lodes.

A shaft has already been sunk 40 fathoms deep, which communicates with an adit driven on the course of one of the lodes, and which has been extended about 50 fathoms into the sett from the eastern boundary. In this adit for about 30 fathoms in length, the lode has been taken away on tribute, the excavations even reaching the surface.

The mine has been inspected by practical agents, whose reports fully warrant the shareholders in expecting most satisfactory results.

The peculiar advantages presented by this mine, are—first, its geological position, being situated on the junction of granite and killas, one of the most important features in the mineral-bearing districts of Cornwall. Four-fifths of the rich mines in the county are similarly placed, as shown in the following table.

MINES SITUATE ON THE JUNCTION OF GRANITE AND SLATE.

Name of Mine.	Outlay.	Dividends.
Botallack	£ 18,250 0 0	£ 105,650 0 0
Carn Brea	30,000 0 0	280,500 0 0
Dolcoath	46, 37 5 0	313,684 0 0
East Basset	18,944 0 0	67,512 0 0
Providence	11,568 13 4	98,700 0 0
St. Ives Consols	10,105 0 0	461,070 0 0
South Caradon	640 0 0	313,600 0 0
South Frances	9,293 0 0	185,838 16 0
Tincroft	54,000 0 0	123,300 0 0
Tresavean	4,080 0 0	449,064 0 0
West Basset	10,500 0 0	160,200 0 0
Wheal Basset	2,624 0 0	326,912 0 0
Wheal Buller	14,464 0 0	237,824 0 0
Total	£230,605 18 4	£3,126,818 16 0

Total dividends	£3,126,818 16 0
Paid-up capital	230,605 18 4
Balance	£2,896,212 17 8

Profits in excess of paid-up capital, £2,296,212 17s. 8d., irrespective of present market value of shares.

Secondly.—The lodes traversing the sett have proved very rich in the mines immediately to the east and west of the boundary; while the workings in the grant have already opened upon good courses of tin, similar to those found in the mines to the east and west at the same depth, thus placing its value beyond doubt.—Thirdly. The mine can be worked to a considerable extent without the aid of expensive machinery, there being sufficient water power for all practical purposes; and the rich lodes can be opened upon by the driving of adits about 60 fathoms deep, an advantage seldom met with in Cornwall.—Fourthly. It is within two miles of the shipping port of St. Agnes, rendering the shipment of ore easy, and the carriage of materials cheap.

From what has been stated, it is obvious that the sett contains the great elements of success; it is surrounded by rich mines; there are several lodes of an unusually rich description traversing its entire length; the produce of tin has been rich and profitable, and there is a certainty that a further small outlay, would place it amongst the richest mines of the county.

The sett is held under lease for 21 years (from 14th December 1866) from his Royal Highness the Prince of Wales, as Duke of Cornwall, at a minimum rent of £20 per annum, to merge into the royalty of one-fifteenth of all the tin sold prior to the erection of an engine, and one-twentieth afterwards.

The lease will be conveyed to the company for the sum of £3000, of which £500 is to be paid in cash, and £1500 in equal instalments at 3, 6, and 9 months, and the balance £1000, in 1000 shares upon which £1 per share will be credited as paid.

Some fine specimens of the ore may be seen at the offices of the company.

Prospectuses, plans, forms of application for shares, and every information, may be obtained of the secretary.

WATSON BROTHERS' MINING CIRCULAR

WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for 25 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge or commission.

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SATURDAY.—Market very quiet, and prices merely nominal. Chiverton Moor, 3 to 3⅛; Chontales, 27s. 6d. to 30s.; Drake Walls, 20s. to 22s. 6d.; East Grenville, 5 to 5⅛; Frontino and Bolivia, 26s. to 22s. 6d.; New Lovell, 2⅛ to 2¾; Prince of Wales, 24s. to 26s.; Providence Mines, 38 to 40; Rosewall Hill and Ransom United, 30s. to 32s. 6d.; Tincroft, 18 to 19; West Basset, 36s. to 38s.; West Chiverton, 50 to 52; Wheal Agar, 28s. to 30s.; Wheal Buller, 17 to 18.

MONDAY.—The market is moderately active to-day, with a good demand for Frontino and Don Pedro shares, at an advance. Frontino, 24s. to 26s.; Don Pedro, 4⅝ to 4⅞; Chontales, 25s. to 30s.; West Frances, 54 to 56; West Chiverton, 50 to 51; Great Laxey, 19 to 20; Prince of Wales, 24s. to 26s.; Tincroft, 18 to 19; South Condurrow, 28s. to 30s.; Wheal Grenville, 52s. to 54s.; East Grenville, 5⅛ to 5⅜.

TUESDAY.—The market is rather quiet, and, with the exception of a rise in Don Pedro shares, prices are in most cases nominal. Don Pedro, 4¾ to 5; Drake Walls, 19s. to 21s.; Great Vor, 18 to 19; Herodsfoot, 44 to 45; Mineral Bottom, 2¾ to 3; Seton, 60 to 65; West Frances, 52 to 54; Prince of Wales, 23s. to 25s.; East Grenville, 5 to 5⅛; Grenville, 52s. to 54s.; Crebor, 10s. to 12s. 6d.; West Basset, 36s. to 38s.

WEDNESDAY.—Market quiet. Don Pedro, West Chiverton, and East Caradon chiefly in demand. West Chiverton, 49 to 51; Don Pedro, 4¾ to 5; East Caradon, 7⅛ to 8; Drake Walls, 19s. to 21s.; Frontino, 22s. to 24s.; Great Vor, 17½ to 18⅛; West Frances, 52 to 54; West Seton, 190 to 195; Seton, 60 to 65; Grenville, 52s. to 54s.; Prince of Wales, 23s. to 25s.; East Grenville, 4⅞ to 5⅛; Chontales, 27s. 6d. to 30s.; Buller, 16 to 18.

THURSDAY.—The chief demand to-day has been for Don Pedro, which advanced to 5l., buyers. Grenville, East Grenville, and West Frances are flatter. Don Pedro, 5 to 5⅛; Grenville, 50s. to 52s. 6d.; East Grenville, 4¾ to 5; West Frances, 51 to 53; Frontino, 23s. to 25s.; South Condurrow, 32s. 6d. to 35s.; Rosewall Hill and Ransom United, 30s. to 32s. 6d.; Prince of Wales, 23s. to 25s.; Crebor, 10s. to 12s. 6d.; Chontales, 27s. 6d. to 32s. 6d.

FRIDAY.—Market quiet, and prices in most cases nominal. Great Laxey, 18½ to 19; West Seton, 177½ to 182½; West Chiverton, 49½ to 50½; West Frances, 50 to 52; Buller, 17 to 18; Great Vor, 17½ to 18; Don Pedro, 5 to 5⅛; Chontales, 27s. 6d. to 30s.; Prince of Wales, 23s. to 25s.; Grenville, 50s. to 52s. 6d.; East Grenville, 4⅞ to 5⅛.

DR. LE NEVE FOSTER.—Mr. Foster (late of the Cornwall and Devon Miners' Association) has returned from Venezuela, and reported favorably on the gold discoveries in that country, and in consequence a company is to be formed in London to work the mines. During the last year he has been in Egypt and Guiana, and he is now about to visit Italy.

MINING PROSPECTS AT KEEPER-HILL, COUNTY TIPPERARY.—Mr. Morgan Morgans, of Mansion-house, Old Park, Bristol (late manager of the Brendon-hill Mines, the most extensive and best worked mines in England), has been making a tour of inspection amongst the Keeper range of mountains, and has taken specimens of the ore found at Ballyhourigan Mine, on Lord Bloomfield's property. The working people of the locality anticipate extensive employment and good wages, and Mr. Morgans informed your correspondent that he never was more highly pleased than he was with the genuine warm-hearted kindness and civility of the Irish peasant on his native soil, and he feels a pleasure in being able to give them a fair day's wages for a fair day's labour, if the company he represents become tenants for those mines. Capt. Garvay, R.N., J.P., is Lord Bloomfield's agent. Ireland is rich in minerals—copper silver, lead, and iron. We are glad to see practical energetic mining engineers like Mr. Morgans visiting our country, and taking back such pleasing reminiscences of our people.—*Nenagh Guardian.*

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending April 18 was 10,582l. 15s. 11d.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—April 19: In a few days we shall have cleared the deep adit east of the winze, on the Van lode, when we shall resume driving the end eastward on a splendid lode, and shall soon come under a shaft on the hill on the Van lode, which formerly produced much lead, and as our adit will drain this ground, we shall be able to work and to remove the ores without any water charge. We have cleared up the winze in this adit to the depth of 3 fms., and are, therefore, now near the bottom, where the former proprietor says he discovered a good branch of ore. The lode on the hill, parallel to the Van lode, where opened on is 12 feet wide, and worth from 1½ to 2 tons of lead ore per fathom, and will undoubtedly improve in depth. This lode has lately increased much in value, is now being driven on both east and west, and is becoming more productive as we advance. We may fairly calculate on being able to raise 20 tons of ore weekly from this lode at present, with every probability of being able to increase the quantity.

BRYNPOSTIG.—April 22: We shall commence to drive out a new 36 fathom level from the bottom of the engine-shaft next week. The sinking has been delayed a few days, on account of having to change the house water-lift from the old engine to the new one, or we should have been down the required depth by this time. The lode in the bottom of the shaft is 4 ft. wide, mixed throughout with lead and blende, but more of the latter than the former. I expect a good lode as soon as we get a little east of the shaft. There is no change in the 24 west since my last worth noticing.

CARADON CONSOLS.—S. Bennetts, April 20: There has been none of the gossan lode taken down in the 78 west since last report; there has, however, been good stones of ore broken from the capels alongside. The same lode east is looking better than it was last week; it has become loose, and containing plenty of fluor-spar, and some spots of ore, mixed with the gossan. The north cross-cut is not as yet free of those spar branches, which are wet, and somewhat troublesome to cut through. The ground in the shaft continues good.

CASTELL CARN DOCHAN (Gold).—J. Parry, April 19: The lode continues 3 to 4 ft. wide in the drivage from the deep adit; the ground is now pretty good for cutting, but still rather hard; there is a little visible gold. We shall have the result of a careful trial of 25 tons of lode stuff in a few days.

CHANTICLEER.—Wm. Wasley, April 22: Good progress is still being made in sinking the shaft below the 110 yard level, and, as I anticipated in my last report, the lode has commenced to open out wider, and is now composed of a beautiful spar and clay, and is producing some very fine lumps of ore, which looks as if they are coming from the top of a new run of ore, which may prove of great importance, as we are going down all in whole ground.

CHIVERTON MOOR.—G. E. Tremayne, W. Bennetts, April 22: The engine-shaft is sunk 5 fathoms below the 85; ground still favourable for sinking. In the 85, west of the engine-shaft cross-cut, the lode is very much improved; it is 3½ ft. wide, composed of flookan, quartz, mundic, and good saving work for lead, and very promising for further improvement; according to the present appearance of this end we have reached the run of lead ground much sooner than at the level above. At this level east the lode is 12 in. wide, of a promising character. The 75 west, on the north lode, is worth 10 cwts. of lead per fathom. We hope in the course of a few days to commence driving east of the cross-cut on this lode, where it is worth for lead 7 cwts. per fathom. Three stopes in the back of this level are each worth on an average 7 cwts. of lead per fathom. In the 65 east the lode is 2 ft. wide, of a promising appearance, producing a little lead. At the 40 cross-cut, north of Clogg's shaft, in driving the last 5 fathoms we have intersected several small branches; we continue driving this cross-cut, and from its letting out a great deal of water we are led to believe the lode is still ahead. In the cross cut, south of this level, nothing of importance has yet been intersected. Our sampling is getting on very well, and we hope to have as much this quarter as last.

— April 23: *Telegram:* A very good stone of ore was brought up last night from the 85 (important).

CUDDRA.—F. Puckey, A. Cundy, April 20: We are still driving on the course of the lode in the 142, and have extended about 2 fathoms further west on the south part thereof since our last monthly report. We are carrying about 5 feet of the lode, which we find to contain rich branches of tin; and to the north of this, the remainder of the width of the lode stands entire for the above length, and, therefore, we have not yet ascertained its full size. To the east of the end the men have been to the present time cutting out the killas under the lode, to make advantage for taking away the tin, which we shall begin doing next week. We have now extended on this course of tin between 7 and 8 fathoms, and find it to average for that length about 80l. per fathom. The lode in the stope in the back of this level, east of the winze, is about 9 ft. wide, worth 9l. per fathom. The lode in the 130 west is 12 ft. wide, and producing saving work for tin. The lode in the stope in the back of this level is 12 ft. wide, and worth 18l. per fm. In this level we are cross-cutting the lode (which has not been cut into for about 20 fms. in length), just over the course of tin in the 142. We have cut through the capels, and are just now getting into a kindly part of the lode. In the stope in the bottom of the 100 the lode is 12 feet wide, and worth 20l. per fathom. In the other parts of the mine there is no alteration. We hope soon to be in a position to begin making preparations for the further sinking of Walker's shaft below the 142 fathom level.

CWM DARREN.—R. Williams, April 21: I will send off the ore to-morrow. There is nothing new to report of the mine this week. The men at the eastern part have been fully engaged clearing the stuff, and the adit is without alteration: still a very promising lode.

CWM ERFIN.—April 20: The lode in the 20, going east of boundary, is 4 ft. wide, composed of a light clay-slate, veins of spar, and spots of mundic; the ground is hard, and slow for progress. The whole of the stopes over the back of the deep adit level are turning out well. The lode in the same varies from 1 to 3 yards wide, and will yield on an average 1¼ ton of lead ore per fathom. The lode in the rise over the back of ditto, 45 fm. east of the boundary, is 4½ ft. wide, and will yield from ¾ to 1 ton of lead ore per fathom. The lode in Taylor's drift, going west from the rise, over the back of the deep adit, and also in driving east of the boundary, has a similar appearance, being from 4 to 5 feet wide, composed of killas, carbonate of lime, and strong spots of lead ore. Good progress has been made in these two bargains during the past take, and we look forward to effect a communication by the time appointed in a former report. The lode in the stope in the bottom of Taylor's drift, 10 fm. west of Roberts's winze, is 4 ft. wide, and worth 15 cwts. of lead ore per fathom. The lode in the stope over the back of ditto, 35 fms. east of the boundary, has slightly improved since the last report, and is now worth 1¼ ton of lead ore per fathom. We continue to drive our cross-cut north in Williams's level, but up to this date without any success. The lode in this level, going east of the boundary, is ½ yard wide, containing killas, quartz, and spots of mundic, and the ground favourable for driving. The lode in the stope in the bottom of this level, 35 fathoms east of the cross-cut, is 2 ft. wide, and worth 12 cwts. of lead ore per fathom. The lode in the stope over the back of ditto, 35 fms. east of the boundary, is 1 yard wide, and worth 15 cwts. of lead ore per fathom. No other alteration worthy of remark. We shall sample on Tuesday next, the 27th inst., 45 tons of silver-lead ore.

DEEP LEVEL AND HALKIN.—April 15: We are pushing forward the 174 yard level west, towards the Pant-y-ffeith vein, with four men, with all possible speed, but the lode keeps poor all the way; the line is in whole ground at present, but now and then we break into old workings towards the roof of the level. Our present points should be to push on the 204, west of Eyton's shaft, as we are with a full pare of men; and now we have got a communication through to the deep level, the 204 must be driven eastward by six men; the deep level south-west, which is a very important point, must go forward by four or six men; and the deep level west, on Pant-y-Go vein, by four men; the cross-cut in the 202, east of Pant-y-Go shaft, must go south by six men; and the 202, west of cross-cut, on Pant-y-Go vein, by six men, and four men to push on the 174 yard level west towards Pant-y-ffeith vein.

DEVON AND CORNWALL UNITED.—J. Donnal, E. James, April 15: We have set a tribute pitch in the back of the 34 fm. level, east of engine-shaft, by two men, at 11s. in 1l., and also one in back of the 22, west of same shaft, by two men, at 11s. in 1l.; the takers to pay all cost. If the lode continues as at present, a parcel of ore will be prepared for the sampling in May. The 46, west of whim-shaft, is not yet out of the cross-course—now driving at 5l. 15s. per fm. The lode in the 34, west of engine-shaft, is still yielding good stones of ore—now driving at 10l. per fm. No change in the 22 west—driving at 5l. per fm.: the takers in each case tram and fill at their own cost. From the favourable prospects in the points referred to, we have a strong opinion that a great improvement will soon take place.

DEVON AND CORNWALL.—J. Donnal, E. James, April 21: The 46 fathom level, west of whim shaft, is getting clear of the cross-course referred to in last report, and the lode improving; it is now 1 ft. wide, composed of capel, quartz, and stones of copper ore; this is an important point, and will be pushed on with all speed. There is no material change in the lode in the 34, west of engine-shaft. The lode in the 22, west of this shaft, is 2 ft. wide, more promising than it has been, yielding stones of ore occasionally. The tribute pitches in the backs of the 34 and 22 fm. levels are improved, and the men earning fair wages.

DOLWEN.—J. Davis, April 22: We are cross-cutting south from the end (72 fathoms) of the adit level, with a view of laying abroad the extent of this lode, which, as I told you before, has not been all carried by the level; the ground so broken is composed of a deposit of beautiful light killas, ribs of spar, and stones of copper ore, and, by the appearance of the ground on the north side of this level, I think that we are approaching the north lode. Everything here is of a most promising character.

EAST CHIVERTON.—J. Grose, R. Southey, April 21: There is no important change since our report to the general meeting, except in the main cross-cut north at the 25 fm. level, the ground in which has very much improved during the last 2 fms. driven; price now 55s. per fathom. The present end is composed of elvan and friable quartz, and is beautiful character ground, similar to what the rich lode was found in when cut in Chiverton Mine. We look for a good discovery here. Our costs are very easy.

EAST GUNNISLAKE AND SOUTH BEDFORD.—J. Bray, April 21: We have cleared up the Impham shaft to a depth of 5½ fms. below the adit level; I find the eastern end thereof is all taken away; in the western end of the same the lode is 6 ft. wide—a kindly, fine lode. No other change since my last report.

EAST NEW WHEAL LOVELL.—Chas. Bawden, April 21: The engine-shaft is sinking in good ground, and the lode alluded to in my last produces good stones of tin, with every indication of making a good deposit in a few fathoms further sinking. Everything is in readiness for the masons to commence building the engine-house.

EAST PROVIDENCE.—J. Nancarrow, W. White, April 21: There has not been much done in Boorman's shaft since last report, for the men have been fixing a plunger-lift in the 106, and a drawing-lift in the 122, both of which are completed, and working well. The ground in the 122 is getting softer, and more congenial for tin as we drive towards the lode, which may be regarded as a very favourable indication. The lode in the 106 north is large and tinny, but not for the present very valuable. The 70 east is worth about 5l. per fathom. The 60 east is a promising end. The 50 east opens tribute ground. The 50 west is improving as we drive.

EAST ROSEWARNE.—C. Glasson, April 22: As the shaftmen have been stoping for the past week, there is nothing to report on in the shaft. In the 115, west of King's shaft, the lode is 12 in. wide, worth 6l. per fathom. Three stopes in the back of this level are worth 6l. per fm. each. In the 115, east of shaft, the lode is 20 in. wide, worth 4l. per fathom; one stope in the bottom is worth 7l. per fathom. In the 105, west of shaft, the lode is 10 in. wide, producing a little copper ore, but not enough to value; one stope in the back is worth 8l. per fathom. Two stopes in the back of this level, east of shaft, are worth 5l. per fathom. In the 95, east of shaft, the lode is 12 in. wide, worth 3l. per fathom. We shall sample next week about 160 tons of ore.

EAST WHEAL GRENVILLE.—G. R. Odgers, Wm. Bennetts, April 17: The lode in the 120, east from the shaft, is 2 ft. wide, containing some very good ore, and the ground is also very favourable for progress, consequently we are making good speed towards the caunter lode, where we have every reason to think we shall find a good lode, seeing the ore gone below the 110; as soon as we have intersected the cross-course, we shall lose no time in driving north to meet with the large lode from West Frances; this is an important point. The lode in the rise above the 95 is looking very well, worth 2 tons of copper ore, or say 15l. per fathom. From the appearance of the 85 east we are daily expecting an improved lode. The lode in the 75 east is worth from 1½ to 2 tons of good yellow ore per fathom. All the other places are looking the same as we last reported. We are getting on very well with the dressing, and so far as we can at present judge we feel confident that the sampling will be quite equal, if it does not exceed, our calculation. We think our progress at this mine is quite satisfactory, and we have no fear as to the result.

— G. R. Odgers, April 21: I have to-day sampled, computed, 254 tons of good average copper ore in the following parcels:—72, 64, 50, 40, 23, and 5 tons. Having been at the mine all day and night I have not been able to go underground to prepared my usual weekly report; in fact, there is no change from my Saturday's letter, because the men, with ourselves, have been busy getting around the ore for sampling. I think, seeing that it is only only nine or eight months since we commenced the 75 and 55 cross-cuts, respectively, that our samplings speak for themselves.

EAST WHEAL REETH.—Thomas Uren: The north and south lode has improved; the horse of ground is wearing out, and good branches of tin dropping in. We have not many fathoms to drive before we shall cut the Wheal Reeth east and west lode.

EAST WHEAL RUSSELL.—Wm. Richards, April 22: The ground for costeaning in search of Impham lode is favourable for progress, and we are finding some kindly shode stones, and several branches, containing traces of silver, copper, and mundic. The prospects at Wheal Russell adit level, driving towards this sett, continue very good; the lode is over 10 ft. wide, yielding 6 tons of ore per fathom.

FRANK MILLS.—J. Cornish, F. Cornish, M. Addems, April 21: In the 145 cross-cut west we have intersected the west lode, or the main part, 4 ft. wide, consisting principally of white iron, with a little quartz and mundic, and letting out water freely; the ground is better for progress. The east lode, in the 145 south, is much mixed up with flookan and killas, showing occasional spots of lead, blende, and sulphurous mundic, and letting out a little water. The stope in the back of this level, on the east lode, is producing ½ ton of lead ore per fathom. The cross-cut east at the 130 north is at present suspended from want of men. We have cleared and secured, and are now engaged driving the 100 south from engine-shaft, on the west lode; the ground is very favourable for progress, and the lode has a most promising appearance, and producing a little saving work. The lode in the 84 north is yielding fully ¾ ton of lead ore per fathom, and the lode in the 84 fm. level rise is also producing ¾ ton of ore per fathom, and fair progress being made. Hancock's lode, in the 72 north end, is disordered and unproductive, and the ground rather stiff. The two stopes in the back of this level are yielding respectively 12 cwts. and ¾ ton of lead ore per fathom. The 60 south is without change to notice, and the stopes in the back are much the same. The tribute pitches also are without any particular change. We are making fair progress with our dressing for the next sampling, and everything goes on well.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., April 17: We are getting into a change of ground in the 82 cross-cut, driving north from King's engine-shaft, indicative of being near the north wall of the lode, which is already driven through nearly 6 fms. The lode in the 70 west is nearly 5 fms. wide, principally composed of capel, spar, and mundic, with occasional stones of ore. The lode in the 70 east is improving in character, yielding good stones of ore. The lode in the winze sinking below the 70 east is worth 5 tons of ore per fathom. The lode in the stope in bottom of the 70, east of said winze, is worth 10 tons of ore per fathom.

GREAT NORTH DOWNS.—W. Rich, W. Ennor, April 21: We are forcing on the cross-cut south from Vivian's shaft towards Pendarvis lode; looking at the position and underlie of this lode in the upper levels, we think by driving some 6 fathoms we will reach it at the 76. There is no material alteration in Sleggan's shaft, the sinking is being urged on as fast as possible. In the 84 west we think there is a part of the lode standing north, and are, therefore, driving in that direction to prove it. The 84, east of Sleggan's, on the north part of the lode, has improved, now worth 12l., and a very promising looking lode. The tin lode in the 48, west of King's, is worth 6l. per fathom. The stope in the back of this level is worth 10l. per fathom. The stope in the back of the 84, east of Sleggan's, is worth 10l. per fathom. The stopes in the 74, west of Sleggan's, are worth 30l. per fathom in the aggregate. The south lode in the 64, west of cross-cut, is worth 10l. per fathom. The stope in this level is also worth 10l. per fathom. There is nothing new in the 74 fm. level cross-cut, south of Sleggan's shaft. The stopes in the 64, east of Butler's, are worth 15l., 8l., 8l., and 5l. per fathom respectively.

GREAT NORTH LAXEY.—W. H. Rowe, April 20: The lode in the 110 end, driving north, is getting larger, and improving, and now beginning to yield some lead and blende. The 96 end has increased in value, the lode is 3 ft. wide, and worth 15 cwts. of lead per fathom. The lode in the 84 end continues to look well, and worth fully 1 ton of lead per fathom. The 73 end north is without any particular change, the lode still producing good stones of lead. In the 60 south the stopes are worth ¾ ton of lead per fathom; and in the 27 fm. level winze, just commenced, in order to communicate with the stopes below, as just referred to, the lode is worth 1 ton of lead per fathom.

GREAT RETALLACK.—G. R. Odgers, April 17: There is no particular change in either place at this mine since our advice of Wednesday. We are pushing on everything with the utmost vigour, and we are busy dressing the lead to sample on Saturday next.

— G. R. Odgers, April 21: No. 1 Lode: We are glad to report that the lode at the engine-shaft, sinking below the 30, has improved to from 5 to 6 cwts. of lead per fathom, which has a most promising appearance. The lode in the 30 north is 1 ft. wide, producing stones of lead. The stope above this level is worth 3 cwts. of lead per fathom. The lode in the 20 north is altogether 2 ft. wide; it has also improved to 5 cwts. of lead per fathom, and is letting out pretty much water.—No. 2 Lode: We have not taken down any lode at the engine-shaft sinking below the 40. The men are engaged about the plunger-lift. The lode in the 40 north is in two parts; the western one is producing some good saving lead work, with an improved stratum again, leading us to expect an improvement. The stope above this level will produce 4 cwts. of lead per fathom.

GREAT ROYALTON.—Thomas Parkyn, April 21: We cut a part of the great north lode yesterday morning, and broke out some rich stones of tin. You will remember I wrote you that I was sinking a shaft 150 fathoms east of the engine-shaft, the object being to intersect this lode, the cutting of which at this point is most important, as you have such a length of tin ground on this lode. I think the main part of this lode is still further north, and I shall cross-cut further in a day or so. At present I have ordered the men to drive on its course east. I will advise you again in a post or two. All things are in a forward state at the other part of the mine. The lift is being delivered, and the house of the little

engine nearly completed; the rods, shears, &c., all ready, so that we shall be in full operation this week, engine working, shaft sinking, &c. We should have been at work by this time, but we have had two or three days' wet weather. Still I believe you will think with me that good progress has been made in the erections at this mine. The cutting of the great north lode has thrown great light, and has made your mine a great deal more valuable.

GREAT WESTERN.—Edward Rogers, Edmund Rogers, April 21: Fisher's Lode: Thomas's engine-shaft is enlarged 2 fms. below the deep adit, and good progress is being made. In the 20, driving east of Pressure shaft, the lode is 3 ft. wide, producing a little tin. The 10, west of Jones's shaft, is suspended for the present, and the men put to sink a winze in the level above, for ventilation. In the 30, driving east of Annie's engine-shaft, the lode is 1 ft. wide, worth 2l. per fathom.—Middle Lode: At Curtis's flat-rod shaft the ground is composed of spar and capel, of a hard texture; consequently, our progress is not so good as it has hitherto been; the lode is worth 3l. per fathom. All the other points of operation are without alteration since last reported on.

GREAT WHEAL BADDERN.—W. Giles, J. Jenkin, April 19: We have set the 75 fm. level north to drive by eight men, at 20l. per fathom; the elvan is now down about half way in the end, and we find the water on the increase.—Western Mine; The water is now down about 6 ft. below the 12 fm. level. We have this day set a pitch on tin in the above-named level, at 13s. 4d. tribute.

GREAT WHEAL VOR UNITED.—Stephen Harris, G. M. Henty, John James, April 21: Metal Shaft: The 216 is driven east of shaft about 7 fms. 3 ft. towards the winze sinking below the 204; the lode is standing to the north of this level. We do not expect to see the lode previous to communication with the winze, which we hope to do in the course of next month. The 204 is driven east of shaft 14 fathoms, and is on a lode 2 feet wide, worth 45l. per fathom, and has every appearance of a continuation. A winze sinking below this level, 6 fms. behind the end, is down 8 fathoms. The lode in the bottom of the winze is worth 25l. per fathom; this winze is down within 3 fathoms of the 216 fathom level, and when communicated will lay open a large quantity of productive tin ground.—Ivey's Shaft: Ivey's engine-shaft is sunk 3 fathoms below the 204; the lode in the bottom of the shaft is 1 ft. wide, producing good stones of tin. During the past month the shaftmen have been engaged in cutting drop-plat, fixing lift, &c., and are now ready for sinking below. The 204 is driven west of shaft 7 fathoms; the lode in the present end is 2½ feet wide, worth 25l. per fathom. The 194 is driven west of shaft, on a lode 18 inches wide, producing occasional stones of tin. The 162, west of shaft, is on a large, well defined lode, producing stamping work; here we are daily expecting a good improvement, as we are now within a few fathoms of being under the bunch of tin that is gone down in the bottom of the level above, and the lode in the present end is coming in precisely of the same nature. The 157, west of shaft, is suspended for the present, being under Edwards's shaft, against which we have commenced a rise on a lode 2 ft. wide, worth full 40l. per fathom; this is a very important feature for the future of the mine, as we have over 200 fathoms of ground from this end to the western boundary of the sett, and with but very little done towards its development below the adit level. The 157 is now approaching one of the great cross-courses about which so much tin has been raised in the district, and we look forward to highly profitable results in this part of the mine. A winze sinking below the 157 is down 4 fms. 3 ft., on a lode and branches 4 ft. wide, worth 25l. per fathom. Edwards's shaft is sunk about 3 fathoms below the 125, lift and penthouse fixed, plat cut, and now in full course of sinking. The 125 is just commenced to drive west of cross-cut, on the lode, which is 4 feet wide, well defined, but poor. Our tribute department continues about the same as for several months past. We have 48 pitches working, at an average tribute of 6s. 8d. in 1l., at 50l. per ton for tin. During the past month we have had several slight accidents, which have tended to impede our progress in opening out the ground, but we are glad to say that all the machinery is now working well, and explorations are progressing satisfactorily.

HARWOOD.—Wm. Vipond, April 19: Things are looking much as usual in the mine. The level on Mouncer cross vein, going north into entirely whole, or new ground, is producing saving work, fine solid lumps of lead ore, with beautiful fluor-spar, and other mineral and clay; driving very easy at 35s. per fathom. I feel certain that if anything comes into or crosses this vein we shall have a good mine again. The working at Trough is producing about the same quantity of ore, and stoping down at 24s. 6d. per fathom. Scar Head level is as last reported. We have commenced dressing ore, and are not again likely to be stopped by snow, I hope. I have sold 746 stones of hay, and kept sufficient for the horse.

LLYWERNOG.—J. Davis, April 21: The winze sinking under the 50 is now down 5¼ fms., and the lode, I am pleased to report, continues worth for that depth 2 tons of lead ore per fathom. In the 62 I have been cross-cutting the lode to reach the south wall; it proves to be much wider than this level, and I think a day or two will throw more light on its value.

MAES-Y-SAFN.—April 20: Grosvenor's shaft, sinking below the 350 yard level, is in a hard and unproductive bar of ground. The 350 west is in the same poor bar, but we expect to get through it soon. The lode in the 330, east of Grosvenor's, is not yielding any ore in the present end of the level, and the same remark will apply to the 310 east. The lode in the 370, east of the sump-winze, is 6 ft. wide; it contains spots of ore, but not of much value. In the 370, west of the sump-winze, the lode is 6 ft. wide, but poor. The lode in the 350 east is 3 ft. wide, unproductive. The lode in the 350 west is worth 1 ton of ore per fm. The ground in the 270, east of No. 2 shaft, is much softer for driving, and the lode produces good stones of ore, and looking kindly to improve soon. The stopes and pitches are without much alteration since our last report. We expect our next sampling will be about 110 tons of ore.

MAUDLIN.—John Tregay, April 17: The lode in the stope in back of deep adit will produce 1½ ton of copper ore per fathom, and is promising for improvement. We ought to run a rise now right away on this shoot of ore, to prove whether or not it extends up to the junction of lodes. In the 40, above the deep adit, there is plenty of ground for a large deposit of copper ore, and a good prospect of finding it. If this junction is productive it will also show good reason to expect similar productiveness from the same kind of junctions below the deep adit.

MINERA UNION.—W. T. Harris, April 22: Low's Shaft: The cross-cut in the 60 yard level, driving west, is in very congenial ground, and moderately easy for progress. The lode in the level north yields saving work for lead, and very promising.—Brabner's Shaft: The ground in the 80 yard level cross-cut is the same as last reported. The pitch in the back of this level south is worth ⅓ ton of lead per fathom. The pitch in the bottom of this level is worth 1 ton of lead per fathom.—Boundary Shaft: The ground in the 60 yard level north consists of black chert and carbonate of lime, very promising for producing lead. No other change to report since my last.

MOUNT PLEASANT.—Wm. Wasley, April 22: Since my last report I have taken the men from sinking the sump in the bottom of the end, east of the cross-cut, north of Bright's shaft, and put them to cut a lodge by the boundary shaft, preparatory to driving a level to cut the flat a little more than 40 yards west of the boundary shaft, where we may expect, from surface and other indications, to meet with good runs of ore. We have some acres of unwrought ground before us, which is parallel to and adjoining where the greatest riches were got a few years back. The tributers at Bright's are not getting so good ore as they were. The tributers at Jenkins's shaft are still making fair wages.

NEW CLIFFORD.—J. Michell, April 22: In the north cross-cut at the 50 we have cut the elvan, and judging from its character, together with faces of copper ore and mundic, Weston's lode will soon be intersected, when we have every reason to expect to find it productive.

NEW CROW HILL.—T. Trelease, A. Kent, April 20: At the engine-shaft we are making good progress in sinking, and everything working well.—Wheal Louisa: We have stopped the cross-cut in the 75, being fully satisfied that it is driven through all the lode. We commenced yesterday to drive east on the course of the lode; here we hope to make pretty good progress in extending this level eastward, as the ground is tolerably speedy for driving. We shall be able to describe the nature of the lode we are driving on in our next report, as we have now only just started from the cross-cut.

NEW DEVON CONSOLS.—Capt. J. Hancock writes of Trewollack (April 20): The lode in the 32 south is about 2 ft. wide—a kindly lode, yielding 1½ cwt. of lead per fm.; price for driving, 4l.; the end is very wet, and no doubt will continue so until we find a run of loose ground. In the 32 north the lode is larger, or, I would say, lode and capels. There is a run of hard capels by the side of the lode, which makes it spare for driving; there is also a great deal more water than in the other end; price for driving, 7l. per fm., but we expect better ground in a short time; the lode is yielding beautiful stones of copper ore; if it had been an east and west lode, I should be looking out for a bunch of copper ore, but do not expect anything of that sort here. We have now opened 20 feet on the lode (including the width of the cross-cut, 4 feet). We have set the two ends to drive by nine men—three men in a core of eight hours—so we hope by the end of the month to give you full particulars of every available point. The lode in the 20 fathom level south has improved for driving since my last report; the lode is all the width of a wide end, 18 inches of it being beautiful stuff, with patches of lead. Since I saw it, on Tuesday last, there was a rich bunch of lead met with; it yielded lumps of from 10 to 20 lbs. in a stone. I think the back will pay for working; the end is now set to drive at 2l. 10s. per fm. I hope we shall make some progress both in the 20 south and the 32 north and south this month. The engine is working well, and keeping the water easily, and we have plenty of good pitwork in the mine, brought from Rosecliff; so in case we cut more water in the bottom ends, which I think we are likely to, we can change the lifts in a day or two. We shall put the flat-rods to work in a few days; we have given notice of it about the neighbourhood, and two men have come out of eight, and these we have put with a carpenter and some others to take down the 1-horse whim at the engine-shaft, and to put up the 2-horse whim brought from Rosecliff, leaving the 1-horse whim for the flat-rod shaft. We shall begin the dressing-floors as soon as the whim is fixed. The farmer wants to carry away the earth where the floors are to be to another part of his farm, and says he will send his carts in a day or two to take it away. We shall have to put men to fill the carts, which will be cheaper than our removing it with barrows.

NEW GREAT CONSOLS.—R. Pryor, R. Trathen, T. Bennetts, April 20: In consequence of Ellis's engine-shaft men being engaged in putting a set of cells a little below the 50 fm. level, and also having changed the bucket-rods, which were constantly breaking, there has been but little change to notice in the 86 during the past week. The lode in No. 1 stope, in back of the 64, is worth 8l. per fathom. No. 2 stope, in back of ditto, is worth 12l. per fathom. No. 3 stope, in the back of this level, is worth 11l. per fathom. The lode in No. 1 stope, in the back of the 50, is worth 9l. per fathom. The lode in No. 1 stope, in back of the 40, is worth 6l. per fathom. No. 2 stope, in back of ditto, is worth 7l. per fathom. No. 3 stope, in back of ditto, is worth 14l. per fathom. The lode in No. 1 stope, in the back of the 30, is worth 8l. per fathom. In No. 2 stope the lode is worth 8l. per fathom. The lode in No. 1 stope, in bottom of the 20, is worth 13l. per fathom. No. 1 stope, in bottom of the 10, is worth 8l. per fathom. No. 2 stope, in the bottom of ditto, is worth 9l. per fathom. The men in Rendle's shaft are making good progress, and this work is being pushed on with all speed.

NEW WHEAL LOVELL.—C. Bawden, J. Priske, April 21: The men are engaged cutting in north in the 50, east of Lanyon's, as we find the main part of the lode to be in that direction; the part we are now driving through produces fine stones of tin—the leading part is still further north. Lanyon's shaft, sinking below the 50, has improved; the lode has become larger, and containing more tin. At Colonel's we still have a good course of tin in sinking the winze below the 20; and the 30 end is worth 18l. per fathom. The 20 west, on south lode, is worth 5l. per fathom; driving at 2l. 10s. per fathom. No alteration in any other part of the mine.

NORTH JANE.—J. Rowe, April 21: The lode in Leed's engine-shaft is 5 feet wide, producing stamping work for tin, and 4 tons of mundic per fathom; this still shows very promising indications. The 36 east is making good progress towards the cross-course. The pitches above the 36 are producing good work for tin. No other change.

NORTH POOL.—J. Vivian and Sons, April 22: In the 52 fm. level, east and west of Ballarat shaft, the lode is about 3 ft. wide, containing spots of yellow copper ore, and presenting a favourable appearance for further improvement. In the 30 fm. level, east of sump, on the middle lode, the lode is now 1½ ft. wide, and yielding 2 tons of good copper ore per fathom; this lode has an improving appearance.

NORTH RETALLACK.—G. R. Odgers, J. Harris, April 21: The lode in the winze sinking below the 10 north is 15 in. wide, producing good stones of lead Seeing the lead in the 20 north from Great Retallack, which is rapidly approaching this mine, and which is 4 fms. deeper than our 20, therefore we hope shortly to meet with something good.

NORTH ROSKEAR.—R. Goldsworthy, R. Angove, April 21: We have again drained the mine to the bottom, and are now making good progress in driving the 240 west of Doctor's shaft, which we shall push on as fast as possible to get under the tin ground in bottom of the 230. There is no alteration in any other part of the mine to notice. Our sampling of copper ore next week will be from 60 to 65 tons.

NORTH TRESKERBY.—R. Pryor, T. Jenkin, April 21: The lode in the 130 end, east of Tresidder's shaft, has somewhat improved since the account-day, being now worth 1 ton of ore per fathom—a large and promising looking lode. The lode in the 120 fm. level, east of shaft, is 3 ft. wide, and worth 1 ton of ore per fathom, with a prospect of a further improvement. Within the last day or two it has drained the water from the level above, so that we are able to commence sinking a winze in the bottom of the 110, about 4 fms. in advance of the 120 end. All other places continue just the same as last reported on.

NORTH WHEAL CHIVERTON.—Wm. Hancock, Wm. T. Bryant, April 21: The engine-shaft is sunk 15 fms. 5 ft. below the 200 fm. level, and is now about 6 fms. below where the lode passed through the shaft; there is a branch in the south end of it about 6 in. wide, producing stones of copper ores, inclining fast towards the lode, which we regard as a good indication; the ground at present is favourable for sinking in, being of a darker killas, with less spar. The 90 east, for the last 10 fms., has been driven on the south part of the lode, which has produced occasionally good stones of sliver-lead; this end is 23 fms. east of the last rise communicated to the 80. We have to-day commenced to cross-cut through the lode in this end. Hicks's shaft is sunk 23 fms. 4 ft. below surface, and is going down in as pretty a channel of ground as can be desired for. About 3 fms. from the present bottom a north and south lode came in from the eastern end of the shaft from 2 to 3 ft. wide, composed of friable spar, flookan, mundic, and at times small pieces of lead, with a slight inclination west; this lode is still in the shaft, which we regard as an important feature in connection with the east and west lodes.

OKEL TOR.—J. Rodda, April 22: The 65 fm. level, east of Gerry's cross-cut, is produsing 6 tons of ore per fathom. Gerry's winze, sinking in the bottom of this level, is not looking so well. The lode in the rise in the back of the 80 fm. level east is very much improved, and will now yield from 4 to 5 tons of ore per fathom, and the ground is moderately easy for rising. No other change.

OLD GUNNISLAKE.—F. Phillips, April 21: In Parker's shaft about 2 ft. 6 in. have been sunk since my last, but there is no change in the lode or the ground. In the deep adit cross-cut about 7 ft. have been driven, but the only change is a little more water.

PEDN-AN-DREA UNITED.—W. Tregay, J. Thomas, April 17: Sump: In the 140 east the lode is worth 10l. per fathom. In the 140 west the lode is worth 40l. per fathom. In the 120 west winze the lode is worth 10l. per fathom. In the 120 north the ground has improved, and we are again making good progress. In the 100 east rise the lode produces a little tin, not to value. In the 68 east the tinstone is still of coarse quality, but we expect improvement.—Cobbler's: Martin's Lode: In the 120 west end the lode is improving in appearance, and producing 5l. worth of tin per fathom.—North Lode: We believe that we have got through the cross-course in the 90 east end, but have not yet opened on the lode beyond to ascertain its value. We expect to do this next week, and shall at once report to you the result. In the 90 west end the lode is worth 20l. per fathom. We think this falling off is only temporary, as in the level above we had on two occasions similar fallings off in value at about similar distances from the cross-course, previous to the recent improvement there. The north lode, in the bottom of the north shaft, sinking below the 55, is worth 40l. per fathom. In the 55 east end the lode is worth 12l. per fathom. In the 55 west end the lode is worth 40l. per fathom. In the 47 west end the lode is worth 20l. per fathom. In the 47 fathom level cross-cut, between Cobbler's and the north lode, we have completed the communication, and shall at once proceed to lay the railway between these two points, to bring the stuff to the steam-whim; this will enable us to work the ground laid open in this level on the north lode with great facility. We sold on Wednesday 11 tons 5 cwts. 0 qr. 1 lb. of black tin, for 83l. 17s. 6d. We have sold 1 ton 15 cwts. 1 qr. of copper ore, at 3l. per ton, realising 5l. 3s. 4d. No other changes to report.

PENHALE WHEAL VOR.—W. H. Martin, April 21: The engine-shaft men are still engaged cutting plat in the 110; on Monday next I purpose to commence driving north, to intersect the lode. The men are getting on very well in cutting plat in the 75, in Ritchie's shaft; we shall also commence to drive south from this level on Friday next, to ascertain whether a part of the lode is standing in that direction.

PRINCE OF WALES.—J. Gifford, W. Gifford, April 22: Watson's shaft is progressing very satisfactorily. In the 65 east the lode is 4 ft. wide, producing a little saving work, but not enough to value. In the 65 west the lode is 1½ ft. wide, worth 6l. per fathom. In the 55 east there is no change. The cross-cut south, in the 55 east, is hard and spare for driving. In the 55 west the lode is 2 ft. wide, principally composed of capel. In the 55 east, on new south lode, the lode is 1 ft. wide, principally composed of capel, with a little mundic intermixed. The stope in back of the 55 east is worth 30l. per fathom. Two stopes in back of the 55 west are worth on an average 12l. per fathom each. In the 45 west there is no change. The stope in back of the 45 west is worth 15l. per fm. The stope in back of the 45 east is worth 8l. per fm. We hope to sample by the end of next week 100 tons of ore.

PRINCESS OF WALES.—T. Foote, G. Rickard, April 21: The sinking of Harris's engine-shaft below the 20 is being forced on as rapidly as possible by nine men, which is now down 6 fms. 3 ft. in a very congenial channel of ground, being mixed with branches of friable spar, prian, gossan, &c. The 20 cross-cut north, driving towards Vosper's lode, is still in the capel, and from the appearance of the end we are getting near the main part of the lode. No other change.

REDMOOR.—T. Taylor, April 22: We have no change to notice underground. The 25 east contains good stones of tin and spots of copper ore. The ground in the stopes is easy, but no alteration in the lode.

ROARING WATER.—H. Thomas, April 20: In driving west on Grady's lode in the 45, we are still gaining north, and as yet have not reached the north or footwall; the lode is composed of spar, peach, and rich grey and yellow copper ore, and appearances indicate a speedy improvement. We are continuing the rise in back of the level; the lode is producing very rich bunches of ore, gossan, and malleable copper—a most promising looking lode.

SOUTH CONDURROW.—J. Vivian and Sons, Wm. Williams, April 17: We have had to clear a great deal of stuff at and about the 82, at King's shaft, which the water had decomposed, and caused to fall into the shaft from the lode standing to the south of the same. We shall now bring the shaft down on the course of the lode, and thus put it in its right position for going below the 93 fm. level. In the 71, west of King's shaft, we are driving on the south side of the lode, and carrying 6 ft. of it, which is traversed by seams of tin, and presents an appearance indicating an early improvement; driving by four men, at 18l. per fathom. In the 61, west of King's shaft, we are carrying 5 ft. of the south part of the lode, which is worth 60l. per fathom; driving by six men, at 8l. 10s. per fathom. In the 51, west of Vivian's shaft, we are stoping a bunch of copper ground, worth about 10l. per fathom; stoping by four men, at 1l. 5s. per fathom. In the 51 north, west of King's shaft, we have cut the flat lode, which dips rapidly from the north to the south part of the sett, carrying all the other lodes and branches with it, and forming the main tributary of the great tin lode, in connection with which they all turn to a more vertical direction. We have cut into this lode only a few inches yet, but find it good quality tinstone. We have to-day let a contract to four men to cut through the lode, at 5l. per fathom. We have let the 51, to drive east and west of the cross-cut last referred to on one of the tin branches previously intersected, which varies from 6 to 10 inches in width, and is worth about 10l. per fathom; price for driving 1l. 5s. per fm., to two men. In the 51, east of Tye shaft, the lode is 2 ft. wide, containing good stones of copper ore; driving by two men, at 5l. per fathom. In the 40, west of Vivian's shaft, we have discovered a lode on the south side of the level previously driven; this lode has an average width of 1½ ft., and is worth for tin about 30l. per fathom; driving by four men, at 5l. per fathom. In the 20, east of Tye shaft, the lode is about 2 ft. wide, and yielding low-quality tinstuff. We sold yesterday 6 tons 17 cwts. 3 qrs 1 lb. of black tin, at 73l. per ton, amount 502l. 16s., for the past month, but have been obliged to leave out about 3 tons, in consequence of not being able to calcine and dress it; we have, therefore, resolved on erecting a temporary "burning-house" on the mine immediately. We have to-day let the engine and boiler houses for the steam-stamps to build for the sum of 130l., we providing all the materials, and stipulating that the houses shall be ready for the engine in eight weeks.

SOUTH DARREN.—J. Boundy, W. H. Boundy, April 17: There has been no lode taken down in the 70 west since last report. All other points are looking much the same as when last reported upon. All the other work is progressing satisfactorily.

SOUTH FOWEY CONSOLS.—F. Puckey, April 20: We are urging on the driving of the 30 fm. level cross-cut, south of the engine-shaft, as fast as possible by a full pare of men. This cross-cut is driven south from the shaft 18 fms., and we expect to intersect a lode therein in the present month. The ground in the end is very congenial for mineral, and favourable for progress; the present price for driving is 4l. 10s. per fathom. In the 30, east of the shaft, we are driving on the course of a lode, which at present is small, but letting out a deal of water. We expect this lode, from its present bearing, will intersect the north lode in about 10 fms. further driving, when we anticipate good results, and fully expect that we shall have a course of ore after passing the intersection of the two lodes.

SOUTH WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, April 17: The lode in each end, in the 42 fathom level, is from 20 inches to 2 feet wide, composed of quartz, iron, &c.

ST. JUST AMALGAMATED.—R. Pryor, T. Gundry, N. Bartle, April 19: Saveall's Lode: The lode in the 110, driving east of engine-shaft, is worth 2l. per fathom, The lode in the 100, driving west of shaft, is worth 3l. per fathom. In this level, driving east of shaft, the lode is also worth 3l. per fm. The lode in the 90, driving west of shaft, is worth 4l. per fathom. The lode in the 76, driving west of cross-cut, is worth 4l. per fathom.—Pryor's Lode: The lode in the 62, driving west of cross-cut, is at present not to value. The lode in the winze sinking below this level is worth 5l. per fathom.—North Lode: The lode in the 40 fathom level, east of north shaft, is worth 3l. per fathom.—Owl Lode: The lode in the 40, driving north of Reddipper shaft, is worth 4l. per fathom. The lode in the 20, driving north of ditto, is worth 5l. per fathom. The lode in the 10, driving north, is worth 5l. per fathom. The lode in the 10, driving west on branch, is worth 2l. per fathom. The lode in the 20, driving east of Reddipper shaft, on Wheal Widden lode, is worth 3l. per fathom. The lode in the 20, driving west of Wheal Widden shaft, on the north branch, is worth 4l. per fm. The lode in the 60, driving west of Phillips's engine-shaft, on Davies' lode, is at present disordered. Other places just the same as when last reported on. Our next sampling of tin will be about the same as the last.

SUMMER HILL.—Wm. Wasley, April 22: The men are still making very good progress in driving the level south of Wynne's shaft, in which direction the flat continues to dip; it is not producing any ore at present, but it is looking very promising. Good progress is also being made in driving north of Wynne's shaft, where the flat is going about level. I am glad to say that the ground in the end driving from Hale's shaft, towards Wynne's shaft, has improved a little since my last report, and the flat looking a little more promising.

TAMAR VALLEY.—J. Goldworthy, April 22: In the 57 fm. level cross-cut, driving east of Weston's engine shaft, towards the Tamar Valley lode, the ground continues rather spare, but fair progress is being made. In the 57 fm. level, south of Weston's engine-shaft, and also in the 47 fm. level, we are driving by the side of the lode. We shall take down the lode in the 57 and 47 fathom levels next week, when you shall be advised of the same. The tribute pitches are without change to notice. The surface work, with the dressing, is progressing satisfactorily.

TREREW.—April 14: We have been driving the 20 fm. level south in killas, and a part of the lode. Finding we could get on faster by carrying the end principally in killas, we directed the men to do so. Within the past few days there has been an increase of water, with slabs of mundic from the west side of the end, and the lode seems to be loose. The 20 north is quite dry. We have set the men to drive in killas by the side of the lode. We want to get this end forth under the whim-shaft, to prove the lode, and to communicate with the shaft, to give ventilation for driving the ends south. There has not been much done in the lode in the 32 south since we wrote last. We directed the men to drive on in killas for a little, whilst there is so much water flowing from the lode, as by that means we shall stretch away the end south faster. The ground is very good for driving.

VALE OF RHEIDOL.—J. Paull, April 21: The lode in the 10, driving east of engine-shaft, is 3 feet wide, composed of clay-slate, gossan, and blende, and impregnated throughout with lead ore. The lode in the adit level, driving east from the engine-shaft, is 4 feet wide, but in consequence of a cross joint which has lately crossed the end it does not produce quite so much ore as when last reported on. The stope over this level, west from the rise, is yielding from 8 to 10 cwts. of silver-lead ore per fathom. The lode in the adit level, driving west from Nanteos cross-cut, is without any material alteration since last report.—Fowler's Hill: In this mine we have cleared the shaft at the mouth of the adit level, on the south lode, which we found to be 5 fms. 3 ft. deep; in the bottom of this shaft there is a lode about 18 in. wide, with a leader of lead ore about 2 in., and intermixed with ore throughout. There is a small level driven eastward from this shaft about 9 fathoms, which has passed through a lode varying from 18 to 30 in. wide, of a most promising appearance. In the bottom of this small level, in the eastern end from the shaft, there have been a few holes shot to ascertain the size of the lode, which we find to be fully 30 in. wide, and in this place will produce full 1 ton of silver-lead ore per fathom. If the necessary machinery were erected for dressing, &c., no doubt but what some very good returns could be made at once. In making a remark, I beg to say that this shaft and small level have not been opened (from all accounts) during the last fifty years. No alterations have taken place in any part on the north lode since last report.—Tynewydd: In this portion of the property all the operations are being pushed on as fast as possible. The wheel is erected, and the men are busily engaged about the travelling-bob, angle-bob, shaft-bob, &c.; the smiths' shop is being completed, and everything is being carried out with the utmost economy and dispatch.

VIGRA AND CLOGAU.—W. J. Cooke, April 22: St. David's Lode, No. 2 Mine: The lode in the level driving towards the great cross-course is much twisted, and has been looking poor; a little improvement has taken place, and fair progress is being made. The shaft is down about 2 fathoms. The lode continues large, but to-day the footwall has cut in somewhat flat; the lode has improved. The stoping drivage east of No. 6 shaft is stopped, and the men put to continue up the rise in No. 1 level. All other work progresses as usual.

WEST BASSET.—G. Lightly, April 21: Grenville's Shaft: In the 164 east the lode is 3½ ft. wide, yielding 1½ ton of ore per fathom, and likely to improve in value. In the rise in the back of the 164 west the lode is 3 ft. wide, yielding 1 ton of ore per fathom. In the rise in the back of the 154 east the lode is from 3 to 4 ft. wide, yielding 1 ton of ore per fathom.—Middle Lode: In the winze in the bottom of the 65 west the lode is worth 7l. per fathom for tin. In the winze in the bottom of the 52 the lode is worth 4l. per fathom for tin.—Hambly's Lode: In the 65 west the lode is 2 ft. wide, saving work for tin. In the 52 west the lode is also yielding some saving work for tin. Other points of operation remain as for some time past.

WEST CARADON.—W. Johns, N. Richards, April 20: Allen's lode, in the 170 east, is much the same as last reported—1½ ft. wide, containing stones of ore. In the 170 cross-cut north we have recently cut another branch, but this we do not consider to be the lode we are aiming at. The 17 west, on the south part of Glipin's lode, is without any change to notice, producing some good black and yellow copper ore.—Marina's shaft: Although still in the elvan course the sinking is progressing satisfactorily. The 30, east of cross-cut, on Allen's lode, is without alteration, producing about 2 tons of copper ore per fathom. Within 4 fms. of this end we have commenced to sink a winze in the bottom of the level, and so far as sunk it has been dry, and the lode looking very promising, worth about 1½ ton per fathom. We are pleased to say the lode in this part is opening out better than we anticipated at this shallow depth.

WEST GODOLPHIN.—J. Vivian and Son, J. Pope, April 22: Caunter Lode: In the Pressure shaft, now 14 fms. below the deep adit level, or 41 fms. from the surface, the lode is 4 ft. wide, and worth full 40l. per fathom for the length of the shaft, and easy for sinking through. We never before had such rich tinstone from this shaft as it is yielding at present. In the 10, east and west of Pressure shaft, the lode is about 2½ ft. wide, and both ends opening through profitable tin ground. In the deep adit level, east of the caunter, on the south Hope lode, the lode is increasing in size and improving in quality, being worth 5l. per fathom. We expect in driving this end a short distance further to meet with the dip of rich ore ground in the winze under the middle adit, where it is worth 12l. per fathom, and to drain the water from the said winze. This will enable us to resume sinking the winze, and to open out quickly this ground for stoping.—Hope Lode: The water has drained 6½ fms. below the 25, and to within 6 ft of the stopes in the back of the 35 fm. level. Other parts of the mine are without alteration requiring notice. Tin ore sold on April 15—4 tons 7 cwts. 2 qrs. 4 lbs., at 76l. 10s. per ton, realising 334l. 16s. 6d. per ton, purchased by Bolitho and Sons.

WEST PRINCE OF WALES.—W. C. Cock, April 20: In the north engine-shaft we have white ground again under the floor of capel referred to in last report. The ground throughout the month has been favourable for sinking, and fair progress has been made. We seem to be cutting down the water from the 16 every floor we meet with in the shaft, but, on the whole, I do not think the water is increasing. There is no change in the 30, west of south shaft, on south lode. The ground is very favourable for driving.

WEST TOLGUS.—April 21: We have not made that progress this week in forking the water that we expected. On Monday morning last we had drained the water 10 fms. 3 ft. below the 50 fm. level, and the engine working well until about 10 o'clock in the forenoon, when one of the back stays supporting the main rod in the 40 fm. level broke, which caused a stoppage of the engine for four hours, to repair it; during this time the water rose 11 ft. 6 in., which took till yesterday morning to fork. Then we discovered that one of the scars in the main rod, just below the surface, had failed, and we had to stop the engine three hours to repair it; we took from the scar nine broken pins, and replaced them with new ones. These and other little stoppages of the engine greatly impeded our progress in forking the water. We have the water now drained 9 fms. 5 ft. below the 50, and the engine and pitwork working well, but we cannot tell to a minute what may happen, hoping things will go on all right. We have our balance-bob almost in course to send underground, but if we can possibly fork the 65 fm. level and look to the pole and clacks before stopping the engine to send it down we shall. No lode taken down in Richards's shaft since last reported; the men are making fair progress in sinking.

WEST WHEAL TREMAYNE.—S. Roberts, April 21: It gives me great pleasure to report a general improvement in the mine. The 44 east, on engine lode, is now 14 in. wide, producing some good work for tin, with good stones of copper ore. In the 44 west, although the lode has been small near the cross lode, it is now increasing in size and quality. In the winze in bottom of the adit level, on south lode, the lode is 18 in. wide, from which we are raising some rich work for tin. The 20, on south lode, is still improving.

WHEAL AGAR.—Edmund Rogers, April 21: The lode in the 130, driving west of engine-shaft, has further improved, and is now worth for tin 12l. per fathom. We have not taken down the lode in the shaft since last week, There is nothing new to report upon in the flat-rod shaft or in the cross-cut in the 170.

WHEAL BULLER.—James Inch, James Brown, April 21: We have nothing new to report on since our last. Next Friday being our setting-day we will send you a full report of the mine. We have sent our parcel of tin to the smelting-house to-day, which we believe is up to our calculation of last week, which is about 10 tons.

WHEAL COURTENAY.—J. Gifford, April 20: The following was set on Saturday:—To drive the deep adit west by four men, stent the month, at 45s. per fm.; lode 1½ ft. wide, composed of capel, peach, quartz, and mundic. We discontinued driving on the north part of the lode, as we think it will come in the south part again going east.

WHEAL CREBOR.—J. Gifford, April 20: The following was our setting on Saturday:—To drive the 120 east by the side of the lode by six men, stent the month, at 5l. per fathom. To drive the 120 west by six men, stent the month, at 5l. 16s. 6d. per fathom; lode 3 ft. wide, composed of capel, quartz, and mundic; this end, according to dialling, is now near Kelly's shaft. To drive the 108 east, on north lode, by two men, stent the month, at 63s. per fathom; lode 2 ft. wide, composed of capel and quartz, with spots of mundic and copper ore intermixed. To drive west on a branch in the 96 cross-cut south by two men, stent 1 fm., at 80s. per fathom; branch 10 in. wide, yielding stones of copper ore. To sink a winze in the 108 east, on the middle or caunter lode, by six men, stent the month, at 6l. per fathom; lode 2½ ft. wide, worth 10l. per fathom. A pitch in back of the 84 east by two men, at 12s. in 1l., and 12s. 6d. per unit. A pitch in back of the 84 east by two men and two boys, at 13s. 4d. in 1l., and 12s. 6d. per unit. The other pitches, time not out.

WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, April 17: The lode in the 120 west is 2 to 2½ ft. wide, composed of quartz and chlorite, producing good work for tin, worth fully 10l. per fathom. This is a pretty lode; it is letting out a quantity of water, and, judging from its appearance, one would think that it is likely to lead to copper ore. The lode in the 110 east is 3 ft. wide, composed of quartz, &c., producing a little tin. The lode in the 100 east is worth 10l. to 12l. per fathom. The ground in the 90 fm. level cross-cut is of precisely the same kind as accompanies the lode we are driving to intersect, and we are very sanguine as to the result. The lode in the 80 west is 3 ft. wide, opening good tribute ground, and worth 8l. per fathom. The lode in the 66 west is 3 ft. wide, and worth 8l. per fathom. The tributers are working vigorously, and they are raising about their usual quantity of tinstone; therefore, we shall sell a good parcel of tin again for this month.

WHEAL KITTY (St. Agnes).—S. Davey, Wm. Polkinghorne, April 17: In the 82, driving west of Holgate's shaft, the lode has improved in size and appearance, being now 3 ft. wide, and worth for tin 8l. per fathom.—New Shaft: Pryor's Lode: Nothing new at the shaft since last report. In the 94, driving west of new shaft, the lode is much the same as last reported, worth for tin 20l. per fathom. In the 94, driving east of shaft, the lode is 2½ ft. wide, and worth for tin 13l. per fathom. In the 82, west of shaft, we are still cutting in south. In the 82, driving east of shaft, the lode is producing a little tin. In the winze sinking below the 82, west of shaft, the lode is 2 ft. wide, and worth for tin 20l. per fathom.—Caunter Lode: In the 82, driving north of shaft, the lode is worth for tin 10l. per fathom. In the 44, driving east of cross-cut, north of Pryor's, the branch is producing stones of tin.

WHEAL MARY ANN.—Peter Clymo, J. Harris, J. Stevens, J. Skeat, April 22: The cross-cut in the 240 is extended 8 fms. towards the lode. In the 230 north the lode is still small and poor. In the same level south the lode is 2½ ft. wide, worth 11l. per fathom. There is no change to notice in the 220 north. In the same level south the lode is 2 ft. wide, worth 12l. per fathom. The lode in the 210 north is 1 ft. wide, but still unproductive. In the same level south the lode is small, but producing a little ore. In the 200 north the lode is 1½ ft. wide, worth 4l. per fathom. The same level south is at present suspended, being

driven home to the slide. There is no change to notice in the 190 north since last reported on. The stopes and pitches are producing much the same as usual. We have this day sold our parcel of silver-lead ores (computed 55 tons) to Messrs. the Burry Port Smelting Company, at 24*l.* 2*s.* per ton.

WHEAL SPARNON.—Wm. Tregay, April 17: The men have been clearing attle the principal part of the week; consequently, have made but little progress in the cross-cut north. Next week we hope to report good progress, as after Monday we shall be enabled to work in the cross-cut without further hindrance.

WHEAL UNY.—Samuel Coade, Matthew Rogers, April 17: We have drained the water 4½ fathoms below the 120 fathom level, and expect to get down to the 130 next week, when we shall draw away tinstuff of a better quality. We shall sell from 7 to 8 tons of tin on Wednesday next.

MR. MURCHISON'S PAMPHLET.—Considerable interest will be added to this pamphlet on the Lead Mines of Cardiganshire and Montgomeryshire by a map of these districts, which it is now announced it will contain. The map will show the position of all the principal mines, and has been arranged and drawn specially for Mr. Murchison.

TIN MINING IN CORNWALL.—It is satisfactory to find the general opinion to be that tin mining in Cornwall is likely again to attain to its highest pitch of prosperity. Mines which were opened at a period when tin realised only 40*l.* per ton, and which then, at their shallow levels, paid all the cost of working, are, now that tin approximates to nearly double that price, about to be worked by spirited companies, with all the requisite appliances of modern science. We hail those tokens of returning vitality with the highest satisfaction, and believe that greater success still awaits the mining industries of Cornwall than we have for many years recorded. The neighbourhood of St. Just has long been celebrated as among the first of our tin-producing districts, and the name of Balleswidden is a household word in the mouths of our tinners. The returns of tin from this mine have been prodigious. Westward from Balleswidden is the great tin district of Sancreed, where, from the shallow workings alone, immense returns of tin have been made of the highest quality; in fact, the very hedges in that locality have been built of large lumps of rock from the lodes, containing a fine produce of tin, although the mines themselves have scarcely been worked below the adit level. The Beacon United Tin Mines of Cornwall consist of several distinct proprieties, which have been consolidated, and are about to be efficiently and vigorously worked, when doubtless a large profit will result from the enterprise, under the favourable circumstances of tin at double the price it realised when the same mines were formerly worked. These are not old and deep mines, but young and virgin properties, scarcely developed below the adit.

DEVONSHIRE MINES.—Ashburton, as all our ancient miners know, was originally one of the Stannary or coinage towns of Devonshire, and was long celebrated as the centre of a great tin-producing district, which gave not only celebrity to the neighbourhood, but great riches to the mine proprietors, and substantial comforts to the labouring miner. The revival of the great staple industry of the country in this part of our mineral domain affords ground for much satisfaction to those who are in any way identified with the localities, or interested, directly or indirectly, in the success of those enterprises. Many of the mines which have yielded immense wealth have only been worked down to, or scarcely below, the adit level, and there is no doubt whatever that, with tin at its present price, very large profits will arise from their re-working. Among others, it is rumoured that that undoubtedly valuable property, Whidden and Brownshill, will shortly be re-worked by an influential London company.

CEFN BRWYNO.—This lead mine continues to look very well. The 92 east is worth from 15 cwts. to 1 ton of lead ore per fathom. The winze below the 80 east is worth 1 ton per fathom. In the 80 west the lode is very large, and produces a great quantity of blende, and 13 cwts. of lead ore per fathom; and the deep adit (70 fms. from surface, in whole ground) is worth 1 ton 12 cwts. per fathom. The north lode, in the 20 west, is 2 feet. wide, and is likely to improve.

GOLD MINING IN BRAZIL.—Considerable interest being now felt in everything relating to gold mining in Brazil, in consequence of the very satisfactory returns of the precious metal which have been received from that country, it certainly appears remarkable that two of, perhaps, the most promising mines in Brazil—the Emily and the Capao—should remain in abeyance. In another column we publish the statement of our old and esteemed correspondent Mr. EDWARD OXENFORD concerning these mines, and explaining the reason they have not long ere this taken a position as high as any in the district. That mining enterprise usually requires a large first outlay to make it remunerative is beyond question, but in the case of the Emily and Capao the greater part of this preliminary outlay seems to have been made, and, but for errors in judgment during the past two or three years, there appears no doubt that the mines would now be paying regular dividends. The completion of a water-course, of which only a few hundred yards remain to finish, and the driving of the adit to unwater the Capao Mine, appear to be all that is necessary to put the property in good working position. That the statement which has been made as to the mines having been worked out is unjustifiable need scarcely be discussed, when it is known that the "vast mechanical power" expended upon the Emily Mine has been limited to one 9-head stamps, acting for a very short time on one lode; and that in the Capao, which is scarcely 20 fms. deep, there is a lode 24 ft. wide, showing gold at the bottom, and constantly improving in depth. It may fairly be hoped that the facts contained in Mr. Oxenford's statement will secure for these mines the attention they deserve, and lead to their being placed in a position to add to the amount of profits derived by English capitalists from the development of Brazilian mines.

THE DON PEDRO GOLD MINING COMPANY—As intimated by the Chairman (Mr. Henry Haymen) at the meeting of shareholders, held on April 17, the directors, upon receipt of the advices by the last Brazilian mail, announced their intention to propose at the forthcoming meeting a dividend of 3*s.* per share for the quarter ending March 31, being at the rate of 85 per cent. per annum, leaving the sum of 2750*l.*, and the profit for March, to be carried forward for the quarter ending June 30. The dividend for the corresponding period of 1868 was 1*s.* 6*d.* per share. The February produce amounts to 22,726 oits., as against 13,678 oits. for February, 1868, the profit being 6922*l.*, as against 3665*l.*, while the produce for the first division of March, 1869, amounts to 12,467 oits., as against 3502 oits. during the corresponding period in the preceding year.

THE YORKE PENINSULA MINING COMPANY.—By the mail just arrived from the colony the directors have advices from the committee of inspection at Adelaide (March 1), by which they are informed that it has been decided by the Government of South Australia to place the terminus of the New Burra Railway on the Bon Accord property, belonging to this company, and that from 15 to 20 acres of the surface will be required for that purpose, an arrangement which cannot fail to increase the surface value of that property. We stated in last week's Journal that instructions were sent by the mail, on March 26, to start the engine and resume operations at the Kurilla Mine, by sinking the shaft from the 35 to the 45, and exploring and driving another level east and west at that depth.

PORT PHILLIP AND COLONIAL GOLD MINING COMPANY.—On April 12, Vice-Chancellor Stuart made an order confirming the resolution passed on April 3, and confirmed on Dec. 17 by the shareholders, and that such order and a minute reducing the nominal capital from 500,000*l.* to 200,000*l.*, and the shares from 5*l.* to 2*l.* per share, was duly registered, and took effect on and from the 5th inst. The directors, in accordance with the powers conferred upon them, have declared a distribution of 1*s.* per share on account of the 12th dividend, free of income tax (being at the rate of 20 per cent. per annum), payable on May 1, out of funds in hand, as per statements annexed:—Statement of operations, Oct. 14, 1868, to Feb. 3, 1869—The quantity of quartz crushed was 19,868 tons, and pyrites treated 146¼ tons; the total gold obtained was 7611 ozs. 1 dwt., or an average yield per ton of 7 dwts. 11 grs. Receipts, 28,269*l.* 1*s.* 8*d.*; payments (including 5549*l.* 17*s.* 1*d.* spent on stock of timber and firewood, &c., for use of current and portion of next season), 22,153*l.* 10*s.* 2*d.* Profit available, including 1898*l.* 15*s.* 7*d.* brought forward from October account, was 8014*l.* 7*s.* 1*d.*, and was divided as follows:—Port Phillip and Colonial Gold Mining Company 13-20ths, 4680*l.*; Clunes Company 7-20ths, 2520*l.*; and the balance of 814*l.* 7*s.* 1*d.* carried to February account. The balance of funds in favour of the company available for distribution, after providing for all debts and liabilities, is 5402*l.* 17*s.*; the distribution, on account of 12th dividend of 1*s.* per share, will absorb 4875*l.*; 10 per cent. thereon to added to the reserve fund, 487*l.* 10*s.*—5362*l.* 10*s.* Leaving to be carried forward the sum of 40*l.* 7*s.* The reserve fund at present amounts to 7358*l.* 9*s.* 9*d.* stock of the New Three per Cent. Annuities, and will be augmented by the investment of the above sum of 487*l.* 10*s.*

GREAT VOR has sold for the month 50 tons of tin, which realised 3800*l.* This will leave a profit of about 1300*l.* The mine has been improving for some time past, and the indications about Edwards's shaft are of the most encouraging character.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Prof. Smyth's Lectures at the Royal School of Mines; the Geological Society of London; Australasian Gold; Reviews of Mr. Sandberg's Translation of Mr. Knut Styffe's Report upon the Experiments made for the Swedish Government Committee on Iron and Steel, of Messrs. Crookes and Röhrig's Translation of Kerl's Metallurgy (Vol. II.—Copper and Iron), of Mr. F. W. Campin's Manual of the Law of Patents of Invention; Reports from various Foreign Mining Companies; also the usual Monthly Summary of Australian News, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, APRIL 23, 1869.

COPPER.	£	s.	d.	£	s.	d.
Best selected..p. ton	79	0	0–		—	
Tough cake and tile	77	0	0–	78	0	0
Sheathing & sheets.	80	0	0–	82	0	0
Bolts	81	0	0–		—	
Bottoms	83	0	0–	84	0	0
Old (Exchange)	65	0	0–	70	0	0
Burra Burra	81	0	0–		—	
Wire.....per lb.	0	1	0	– 0	1	0½
Tubes	0	0	11½	– 1	0	

BRASS.	Per lb.
Sheets .....per lb.	9d.– —
Wire ..... ,,	8¼d.–8½d.
Tubes ..... ,,	10½d.–11½d.
Yellow Metal Sheath.p. lb.	7d.– —
Sheets ..... ,,	6¾d.– —

SPELTER.	Per ton.					
Foreign on the spot	£20	12	6–	21	0	0
,, to arrive..	21	0	0–		—	
ZINC.						
In sheets	£26	0	0–		—	

TIN.			
English blocks	130	0	0
Do., bars (in barrels)	131	0	0
Do., refined	136	0	0
Banca	138	0	0
Straits	132	0	0

TIN-PLATES.*	Per box.					
IC Charcoal, 1st qua.	1	8	0–	1	10	0
IX Ditto, 1st quality	1	14	0–	1	16	0
IC Ditto, 2d quality..	1	7	0–	1	8	0
IX Ditto, 2d quality..	1	13	0–	1	14	0
IC Coke	1	5	0–	1	6	0
IX Ditto	1	11	0–	1	12	0
Canada plates, p. ton..	13	10	0–		—	
Ditto, at works	12	10	0–		—	

* At the works, 1*s.* to 1*s.* 6*d.* per box less.

IRON.	Per ton.					
Bars Welsh, in London	6	10	0–	6	15	0
Ditto, to arrive	6	12	6–	6	15	0
Nail rods	7	2	6–	7	5	0
,, Staffd. in London	7	12	6–	8	10	0
Bars ditto	7	10	0–	9	10	0
Hoops ditto	8	0	0–	9	15	0
Sheets, single	9	0	0–11		0	0
Pig No. 1, in Wales	3	15	0–	4	5	0
Refined metal, ditto..	4	0	0–	5	0	0
Bars, common ditto..	6	0	0–		—	
Do. mrch. Tyne or Tees	6	10	0–		—	
Do., railway, in Wales	6	0	0–		—	
Do., Swed. in London.	10	0	0–10	5	0	
To arrive	10	5	0–		—	
Pig, No. 1, in Clyde..	2	13	3–	3	0	0
Do. f.o.b. Tyne or Tees	2	9	6–		—	
Do. Nos. 3,4, f.o.b. do.	2	6	6–	2	7	0
Railway chairs	5	10	0–	5	15	0
,, spikes	11	0	0–12	0	0	
Indian Charcoal Pigs, in London, p. ton..	6	0	0–	6	10	0

STEEL.	Per ton.					
Swed., in kegs(rolled)..	—		–	—		
,, (hammered)..	15	5	0–15	10	0	
Ditto, in faggots	16	0	0–		—	
English, spring	17	0	0–23	0	0	
QUICKSILVER (p. bottle)	6	17	0–		—	

LEAD.	Per ton.					
English Pig, com.	19	10	0–		—	
Ditto, LB.	19	15	0–		—	
Ditto, WB	20	15	0–		—	
Ditto, sheet	20	5	0–		—	
Ditto, red lead	21	0	0–		—	
Ditto, white	27	0	0–30	0	0	
Ditto, patent shot	22	10	0–23	0	0	
Spanish	18	17	6–19	0	0	

REMARKS.—The Metal Market has again experienced a rather inactive week, business not having yet returned to the animation displayed at the commencement of the month; however, we fully anticipate a restoration of activity before long, as there are no circumstances occurring which are at all calculated to interfere with the progress already made in the metal trade, as it is even now very much better than it was some months since; and although generally the market remains quiet, yet there are some departments of the trade in which considerable activity is still evinced. Prices in the meantime remain with little or no alteration, but should a better demand spring up, as we fully expect will be the case as the season advances, there is not much doubt that a general improvement in prices will occur, indeed, they appeared lately to be rapidly doing so, but the present lull in the market has caused a cessation of the advances. The Money Market has now become again rather easier, and should this state of things continue, it is by no means improbable that a reduction in the Bank rate of discount will take place before long. Speculative operations appear for the present to have ceased, which may partly account for the present dulness of the market; but should any movement occur by which prices would show a disposition to improve, no doubt we should again see this kind of business once more going forward, which invariably imparts a liveliness to the market, although, of course, it would be more desirable to see a legitimate demand spring up, as the former transactions are merely of a spasmodic character, while the latter are more likely to be permanent, and to lead to the establishment of the metal trade upon a firm and lasting basis.

COPPER.—The market has been rather better during the week, and prices have become somewhat firmer. About 700 tons Chili bar have been sold at prices from 72*l.* 10*s.* to 73*l.* cash, and 73*l.* 10*s.* to 74*l.* for distant arrival. Ore and regulus are also rather higher, at 14*s.* 4½*d.* to 14*s.* 6*d.* per unit. English has also rather improved, except for manufactured, the demand for which is only limited. Australian is in better request, and Wallaroo has been sold at 82*l.* 10*s.*

IRON.—In Staffordshire there have been rather more orders to hand during the week, and the works of the first-class makers are better employed. The smaller are, however, as a rule, short of orders, though there appears to be rather a tendency towards improvement. In Welsh it cannot be said that business has improved this week, buyers being rather backward in entering into fresh engagements for two or three weeks after quarter-day. The exports continue on a tolerably large scale for both the American and Russian markets, and the shipments already effected have so reduced stocks that the slightest improvement in the demand will be immediately felt at the works. In bars transactions are comparatively small. Pigs command a somewhat better sale, with firmer prices. In Swedish iron at present there is very little doing. In Scotch pig-iron the market has been rather irregular during the week, but still a very fair amount of business has been done; prices are, however, somewhat lower, the last price received from Glasgow being 52*s.* 3*d.* cash.

LEAD.—The market continues to remain steady, and prices are firm at the quotations, but business is not very active.

TIN.—During the former part of the week the markets for Straits had rather improved, and business was done at 133*l.* cash, and 134*l.* one month's prompt; however, towards the latter part of the week the market has rather given way, and sales have been effected at 132*l.* cash. Banca in Holland is still quoted at 82½ fls., but very little business is doing.

SPELTER.—The market still remains without activity, and only a limited amount of business is doing. The quotation for parcels on the spot is now 20*l.* 12*s.* 6*d.* to 21*l.*

TIN-PLATES.—The recent movement is maintained, and the works are now in regular employ. STEEL, rather more enquiry.

QUICKSILVER only in limited request.

THE IRON TRADE—(Griffiths' Weekly Report).—The market has been steady during the week. The specifications offered are small, and generally for home consumption, in most cases prompt delivery being bargained for by the buyers. We have a steady demand for coopers' hoops, for shipment to the southern ports of France. There are likewise specifications on the market for Spain of this kind of iron, and a better demand is still expected from the Peninsula, if political events offer no adverse influences to the trade of that country. A moderate business has been done in bars of well-known brands and some kinds of sheet iron, and galvanised sheets have been in better request. Specifications are still attainable for small rounds and squares. Fencing rods are likewise enquired for, but boiler plates of all kinds are slow of sale here, and common bars of inferior makes are quite neglected. The merchants evincing no disposition to offer specifications for stock, there is an entire absence of speculation in finished iron on all sides. The above remark, however, cannot be said to apply to rails, there being buyers here ready for large contracts, if the makers were disposed to concede slight advantages in price or otherwise. Rail makers, however, have their books well filled with orders, and seem resolved to wait the advent of better prices. The reports from the manufacturers vary. The Scotch ironmasters continue busy in plates and angles. The works in Middlesborough, we hear, are progressing without change for the better or worse since quarter-day. The ironmasters of Derbyshire are, perhaps, not quite so busy as they were last quarter. The leading makers in South Staffordshire have orders to keep their works going, but could do with more orders for boiler plates. North Staffordshire, all things being considered, is doing a fair stroke of business. Two or three well-known houses in Yorkshire, who have great celebrity for the very highest class of iron, continue busy on orders for railway specialities for the Continent. The Shropshire ironmasters are busy in fencing rods, wire rods, and are better off for orders for plates than their neighbours in South Staffordshire. The ironfounders throughout the country are receiving more orders as the spring advances. The market for pig-iron throughout the United Kingdom is tranquil, and a little inanimate, owing to the entire absence of speculation. The best informed people in the trade here still believe in the favourable prospects from time to time referred to in respect to the rail trade, and we expect at no distant day to see a favourable change in the iron trade in general, from the increased demand for rails which may be developed before the lapse of another month. Our competitors abroad are in constant fear of great difficulties arising out of the labour question, the colliers and puddlers of Belgium having struck, and given some trouble to the authorities of that country. The same uneasy feeling has exhibited itself amongst the carpenters of Berlin and the iron workers of Pennsylvania, in the United States, since our last report. Labour, however, like all commodities, can only obtain its value by the laws of supply and demand, and the iron workers in all countries must wait until the aggregate demand exceeds the supply, when higher prices for the article they produce will afford better wages to the puddlers and others who manipulate the iron. The reports from Melbourne and the East Indies are more favourable. There are more enquiries here for tin-plates this week, coke being most in favour, principally for the New York market.—75, Old Broad-street, London.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond—The better tendency which we were able to report last week has still further developed itself, and we have to note a considerable business at higher prices. The transactions have consisted of about 1200 tons of Chili bars at from 72*l.* to 72*l.* 10*s.* cash, and 73*l.* to 73*l.* 10*s.* to arrive, one lot of about 100 tons being reported at 74*l.* spot, three months prompt. Some few transactions have taken place in Wallaroo and Burra at our annexed quotations, but this department has been rather neglected. The English smelters have not sold heavily, the demand on them being principally for raw copper, which they are not particularly anxious to sell. The ores at the Ticketing in Swansea went at an average of 14*s.* 4½*d.* per unit, being an advance on the previous sale. The telegram advising the charters for the fortnight ending March 16 has been from some cause or other delayed. Yesterday, however, letters were received, *via* New York, advising charters up to March 10 for only 45 tons bars, and 290 tons fine in ores and regulus. It is worthy of remark that the course which the article takes when not influenced by these telegraphic advices has of late always been an upward one; for instance, notwithstanding the very heavy quantities advised by the last four mails, the price of bars since the last telegram was received, (say) on the 2d inst., has steadily advanced, and is now 2*l.* per ton higher than it was just after this news came to hand. We, therefore, believe that the main reason why copper does not improve in price permanently is, in a great measure, to be traced to the artificial fluctuations caused by speculative transactions based on these cablegrams. To endeavour to demonstrate how much this point may mislead, we draw attention to the fact that from Dec. 2, 1868, to March 2 last, the total quantity of fine copper advised as chartered for was 16,100 tons, only 250 tons of which have arrived; and yet, taking the whole of the copper which had left the Coast up to the end of February, the total quantity afloat is only 9500 tons, of which 3200 tons were chartered for previously to Dec. 2, 1868, leaving only 6300 tons afloat, and 250 tons arrived—say, 6550 tons actually shipped out of 16,100 tons advised as chartered for.

Messrs. James and Shakspeare—The Swansea Ticketing on Tuesday went off at an average of 14*s.* 3*d.*; by private contract about 800 tons ore realised 14*s.* 4½*d.*, which figure has been offered and refused for further parcels, sellers asking 14*s.* 6*d.* to 14*s.* 9*d.* per unit. The sales of bars for the week amount to about 1300 tons, the principal portion being still in arrival parcels; of the foregoing quantity, about 300 tons were for cash, at 72*l.* to 72*l.* 10*s.*, according to brand, the remainder consisted chiefly of Urmeneta "to arrive" at 72*l.* 15*s.* and 73*l.*, which mark seems to be rapidly recovering its former position, so that, in case of need, buyers will give the same price for it as for others; good current brands have realised 73*l.* and 73*l.* 10*s.* "to arrive," the latter figures being paid for every distant parcels, and 100 tons "spot," with a three month's prompt, sold at 74*l.* per ton. With the exception of a sale of Burra at 82*l.* cash, and one of Wallaroo at 83*l.* (the quantity, in both cases, being small), we hear of no transactions in Australian sorts. Some smelters are asking an advance of 1*l.* per ton on English manufactured, and are all rather unwilling sellers of raw descriptions; the demand, generally, has been rather better than for some time past, but is scarcely active enough to enable them to declare an official rise, though the extra price they are compelled to pay for their raw material would fully warrant such a course; in fact, the prices quoted for sheets and sheathing are such as must entail on the makers a positive loss.

The MINING SHARE MARKET has been rather dull this week, and prices generally have not been maintained. The mines mostly dealt in have been West Chiverton, Grenville, East Grenville, Great Wheal Vor, South Condurrow, Prince of Wales, Wheal Buller, Wheal Seton, Frontino and Bolivia, New Lovell, Wheal Uny, Providence Mines, North Treskerby, Rosewall Hill and Ransom United, Chiverton Moor, Tincroft, West Frances, Don Pedro, East Caradon, Chontales, and a few others. Great Laxey, 18½ to 19½; the agent reports the 210 as worth 50*l.* per fathom; the 200, 60*l.* to 80*l.* per fathom; the ends in this part of the mine are worth, in the aggregate, 470*l.* per fathom; at Dumbell's, a course of ore has been gone over, 40 fathoms long, worth in places 150*l.* per fm., and in the present end 80*l.* per fm.; the ends here are worth 210*l.* per fathom; total value of ends, 680*l.* per fathom; aggregate value of points in operation, as mentioned in the report, 1150*l.* per fm.: a substantial result, we believe, unparalleled in mining. The directors hope to continue the present rate of dividends of 30,000*l.* a year, which is 50 per cent. upon the paid-up capital, and 10 per cent. on the market price. Great North Laxey, 20*s.* to 25*s.*; the 75 fm. level has opened out a lode yielding rich lumps of lead; the 84 continues worth 1 ton of lead per fathom; the 96 is worth 15 cwts.; the 110 north is getting larger, and improving, now yielding good lead and blende. Bedford Consols, 14*s.* to 16*s.*; Bedford United, 35*s.* to 40*s.*; Carn Brea, 19*s.* to 21*s.*

West Frances, 51 to 53; the accounts at the meeting showed a profit on the three months' working of 1049*l.* 4*s.* 4*d.*, and a dividend of 768*l.* (1*l.* 10*s.* per share) was declared, leaving 632*l.* 7*s.* 1*d.* in hand. Bailey's engine-shaft is sunk 9 fms. under the 120. The 120 west is worth 10*l.* per fathom; the winze, 25*l.*; the 95, west of shaft, is worth 18*l.* per fathom; the 77 west, 15*l.*; 85 west, 30*l.* per fathom. Cargoll, 18 to 20; at the meeting, held on Thursday, a dividend of 10*s.* per share was declared. West Chiverton, 49 to 51; the 120, on the south part of the lode, is worth 40*l.* per fathom. Chiverton Moor, 3 to 3¼; Chontales, 27*s.* 6*d.* to 30*s.*; Cook's Kitchen, 15 to 16; Drake Walls, 19*s.* to 21*s.*; East Basset, 7¼ to 8½; East Carn Brea, 8*s.* to 10*s.*; East Lovell, 8½ to 9. East Grenville, 5 to 5¼; the sampling is 254 tons of copper ore. Frank Mills, 3¾ to 4. Frontino and Bolivia shares advanced to 26*s.*, and leave off 22*s.* to 24*s.* Great Retallack, 2 to 2¼; Great Wheal Vor, 17½ to 18¼; Herodsfoot, 44 to 46. East Caradon, 7¼ to 7½; at the meeting the accounts showed a profit on three months' working of 360*l.*, and a balance in hand of 2320*l.* Marke Valley, 8¼ to 9; Mineral Bottom, 2⅞ to 3⅛; New Lovell, 2½ to 2¾; North Crofty, 20*s.* to 22*s.* 6*d.*; North Roskear, 6 to 8; North Treskerby, ⅝ to ¾. Prince of Wales, 23*s.* to 25*s.*; the sale of ore for the month realised 788*l.*, with carriage. Providence Mines, 38 to 40; Rossa Grande, ⅜ to ½ prem.; Rosewall Hill and Ransom United, 30*s.* to 32*s.* 6*d.*; Great South Tolgus, 30*s.* to 35*s.*

Gonamena, 20*s.* to 23*s.*; at the meeting, held on the 14th, the accounts showed a balance in favour of the adventurers of 35*l.* 3*s.* 5*d.*, and a call of 1*s.* per share was made. The mine is improving, and it is hoped calls will soon cease. At Stray Park Mine meeting a call of 17*s.* per share was made. The accounts showed a balance of 757*l.* 12*s.* 1*d.* against the shareholders. The agents hope, with the present price of tin, that the mine can be worked so as nearly to meet the cost. Don Pedros have been in good demand, at 5 to 5¼; the advices show a profit on February of 6922*l.*, and the directors propose on May 27 to declare a dividend of 3*s.* per share, being at the rate of 85 per cent. per annum. Taquaril, 10*s.* to 12*s.*; General Brazilian, 14*s.* to 16*s.*; South Condurrow, 32*s.* to 34*s.*; Tincroft, 18 to 19; Trumpet Consols, 20 to 22½; West Basset, 34*s.* to 36*s.*; West Drake Walls, 4*s.* to 6*s.*; West Seton, 180 to 185; Wheal Agar, 26*s.* to 28*s.*; Wheal Buller, 17 to 18; Wheal Chiverton, 3 to 3¼; Wheal Crebor, 10*s.* to 12*s.* 9*d.*; Wheal Kitty (St. Agnes), 5¼ to 6; Wheal Mary Ann, 16¼ to 17; Wheal Jane, 40 to 45; Wheal Seton, 60 to 65; Wheal Uny, 3¼ to 3¾; Yudanamutana, 1¼ to 1¾. At Penhalls Mine meeting, held on the 23d, the accounts showed a profit of 1104*l.* 14*s.* 10*d.* on the quarter, and a balance in hand of 1486*l.* 15*s.* A dividend of 4*s.* per share (1000*l.*) was declared. The agent estimates the same returns for the coming quarter, and reported very favourably for the future prospects of the mine. The working of the adjoining mine, Blue Hills, was considered highly advantageous to this company; the whole of the eastern part of the sett would be worked as a dry mine.

The Market for Mine Shares on the Stock Exchange during the week has been active, both for foreign descriptions and the better class of British mines. West Chiverton shares after falling to 49, sellers rallied to 50, and close firm at 49½ to 50; the report from the mine is favourable. Great Laxey shares are steady at 19 to 19¼; Great Vor, 17½ to 18¼. Van, 26 to 27, and a very large business doing. In the adit, which is 25 fathoms from surface, there has been driven on the lode about 150 fathoms. In the 15, below adit about 70 fms., and through an enormous deposit of ore, varying from 40 to 60 ft. in width, a course of ore from side to side. In the 30 the lode is being cut into, worth upwards of 4 tons per cubic fathom, and the shaft is in course of sinking below the 15, and is down between 7 and 8 fathoms, worth 4 tons of lead per cubic fathom; the lode has been proved 200 fathoms to the east, and the prospects altogether are of a character unparalled in mining. Chiverton, 2⅞ to 3¼; Mineral Bottom, 3 to 3¼; Prince of Wales, 23*s.* to 25*s.* Chiverton Moor shares are better, owing to an improvement in the mine, and are last quoted at 3¼ to 3¾. New Lovell shares have been dealt in at 2⅜ to 2⅝, mine well reported on; Brynpostig, 1¼ to 2; Great Rock shares have been well applied for. Glan Alun, 15*s.* to 17*s.*; good returns of lead may

now be relied on, as the erection of the machinery has been completed. Great Western Mines have sold tin realising 560*l.* for the month. In foreign descriptions, Don Pedro shares have been actively dealt in, and rose after the advices to 4⅞, 4½ prem., closing 4¼ to 4⅜; Chontales are firmer, 1⅞ to 1½; General Brazilian, 4s. to 5s. prem. Taquaril, 3s. 6d. to 4s.; Capt. Treloar's report is expected by the next mail. Del Rey, 16½ to 17; Pestarena, 1 to 1½; Yudanamutana, 1⅞ to 1¾; Port Phillip shares have improved on the greatly increased produce of the stuff to 1⅞, 1¾; United Mexican, 2 to 2¼. Anglo-Argentines are better on the advices, closing ⅛ dis. to ¼ prem. Frontino shares have been largely dealt in, and rose to 25s., closing from 22s. 6d. to 23s. 6d.; Rossa Grande shares are also somewhat firmer, at 7-16ths to 9-46ths prem.

IRISH MINE SHARE MARKET.—Nearly all classes of shares have suffered more or less neglect during the last week or ten days, which may easily be accounted for if we consider that, in addition to the interest always attending local bills before a sitting Parliament, we have now an Irish Church Bill and a Land Tenure Bill to assist us to the utmost, besides the prospect of a Government purchase of our railways, and, finally, a Royal visit, in Prince Arthur, to further detract from quiet contemplation of matters of business. It is, therefore, not to be wondered that prices of mining shares, also, have given way, though not to any very great extent, except General Mining Company for Ireland, which a few days since would have been sold at almost any price, so that on the 12th instant they were officially marked from 6s. to 4s. per share. There are, however, many dealers looking out for effecting purchases at low quotations, and from 10s. to 12s. per share may have to be paid now. Connorree Company's shares are also enquired for, but not an offer at the last rate of 2s. 6d., which is an advance of 6d. per share on the lowest price yet marked for this mine. Cape Copper (7*l.* paid) has just improved from 13*l.* per share to 13*l.* 5s. for account. Mining Company of Ireland shares were in much favour some days ago, and then brought 11*l.* to 11*l.* 5s. (7*l.* paid), but 10*l.* 15s. only is now offered for them, holders being firm at 11*l.*, with, of course, no business doing at present. Wicklow Copper shares have of late been the firmest in quotations, having fluctuated only between 11*l.* 7s. 6d. and 11*l.* 2s. 6d. to 11*l.* 5s., 11*l.* 2s. 6d. being the last price for account, and offered.

The NEW BRYNPOSTIG LEAD MINING COMPANY is the title of an enterprise formed for the purpose of developing an important discovery which has been made upon an extension of the Brynpostig lode, which in the adjoining Brynpostig Mine is yielding such satisfactory results. According to the report of a practical authority, familiar with the district, the lode at its present superficial depth yields ribs of ore of a character and value far beyond anything seen in the Brynpostig Mine at a corresponding depth. The company is divided into 6000 shares of 2*l.* each. The practical management has been entrusted to Capt. John Kitto, of the Brynpostig Mine, and the London managers are Messrs. Ross and Co., whose names have long been familiar with this now celebrated district.

The SOUTH POLBERROW TIN MINING COMPANY, to the formation of which reference was made in last week's Journal, is being favourably received by the public, a large number of shares having already been applied for. From the prospectus, which will be found in another column, it will be seen that there are 13 lodes traversing the sett, several of which have proved very rich in the mines immediately to the east and west of the boundary, while the workings in the grant have already opened upon good courses of tin, similar to those found in the mines to the east and west at the same depth, thus placing its value beyond doubt. The mine can be worked to a considerable extent without the aid of expensive machinery, there being sufficient water-power for all practical purposes, and the rich lodes can be opened upon by the driving of adits about 60 fms. deep, an advantage seldom met with in Cornwall. It is within two miles of the shipping port of St. Agnes, rendering the shipment of ore easy, and the carriage of materials cheap. The lease is held direct from the Duchy of Cornwall, at a very favourable royalty, and the directors are not without experience in similar undertakings. The mine is situated in the parish of St. Agnes, in the county of Cornwall, which is one of the best tin districts of the county. It adjoins the celebrated Polberrow Mine, Wheal Trevaunance, and the Polbreen Mines, all of which are well known for the immense profits they have made. South Polberrow adjoins, and is on the same lode as Polbreen Mine, which made large profits.

The applications for shares in the GREAT ROCK LEAD MINING COMPANY have been very numerous, and the announcement for the closing of the list will be made in the early part of next week.

At the Swansea Ticketing, on Tuesday, 3082 tons of ore were sold, realising 33,750*l.* 15s. The particulars of the sale were—Average standard for 9 per cent. produce, 93*l.* 9s.; average produce, 15¾; average price per ton, 10*l.* 19s.; quantity of fine copper, 473 tons 17 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
March 23	2046	£93 13 6	14¼	£10 2 9	14s. 3d.	£71 3 0
April 20	3082	93 9 0	15⅜	10 19 0	14 3	71 4 6

Compared with the last sale, the decline has been in the standard 4s. 6d., and in the price per ton of ore about 9d. On May 4 there will be offered for sale 1404 tons, from Knockmahon, Cape, Paramatta, Berehaven, Moonta, and elsewhere.

At the Truro Ticketing, on Thursday, 2826 tons of ore were sold, realising 11,607*l.* 8s. The particulars of the sale were:—Average standard, 109*l.* 3s.; average produce, 6¼; average price per ton, 4*l.* 2s.; quantity of fine copper, 177 tons 11 cwts. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
March 18..	3994	£110 2 0	6⅛	£3 19 0	13s. 0d.	£65 0 0
„ 25 ..	1911	98 6 0	8¼	5 7 0	13 0	65 0 0
April 1 ..	2083	106 1 0	6⅜	3 19 0	12 6	62 11 0
„ 8 ..	1384	108 18 0	5⅞	3 14 0	12 6	62 9 6
„ 22 ..	2826	109 3 0	6¼	4 2 0	13 1	65 7 6

Compared with the last sale, the standard was about stationary. Compared with the corresponding sale of last month, the advance has been in the standard 2*l.* 10s., and in the price per ton of ore about 3s.

At West Wheal Frances Mine meeting, on April 15, the accounts showed a profit on the three months' working of 1049*l.* 4s. 4d. A dividend of 768*l.* (1*l.* 10s. per share) was declared. The recommendation of the agents, to purchase a 24-in. cylinder whim engine, is to be carried out; and an annual subscription of 3*l.* 3s. given to the Royal Cornwall Infirmary.

At the Bronfloyd Mining Company meeting, held at 32, Moorgate-street, on Monday (Mr. Hutton in the chair), the accounts (of which we gave a synopsis on the 10th) showed an available balance of 1452*l.* A most satisfactory report of the managing director was read, which stated that the lode in the 73 had yielded 4 tons of lead ore per fathom. Resolutions were passed, declaring the 23d dividend, at the rate of 20 per cent. per annum, and carrying forward a balance to next quarter of a sum equivalent to 28 per cent. per annum. It was determined to sink the No. 1 shaft in the Church property on the south lode an additional 20 fms., and the No 3, or new shaft, in the Gogerddan part of the mine, on the north lode, from the 73 to the 85, forthwith.

At Cook's Kitchen Mine meeting, on April 14, the accounts showed a credit balance of 1169*l.* 17s. 9d. A dividend of 918*l.* 15s. (7s. 6d. per share) was declared. Capts. Josiah Thomas, Charles Thomas, and James Gilbert say—The extra cost charged in this account for cutting down the shafts to prepare for drawing with wire-ropes is upwards of 200*l.* The patent pulverising machine, introduced here by Messrs. Lanyon and Co., of Redruth, has been working for several months to our satisfaction, and we consider it to be of consider able advantage, especially for the pulverising of burning house-roughs.

At Penhalls Mine meeting, yesterday, the accounts showed that 47 tons of tin had been sold for 3442*l.* 3s. 4d., at a cost of 2337*l.* 8s. 4d., leaving a profit for the quarter of 1104*l.* 14s. 10d., and a balance in hand of 1486*l.* 15s. A dividend of 1000*l.* (4s. per share) was declared, carrying over a credit balance to next account of 486*l.* 15s. The agents estimate the same returns for the coming quarter, and reported most favourably of the future prospects. The working of the adjoining mine, Blue Hills, was considered highly advantageous to this company. The whole of the eastern part of the sett would be worked as a dry mine.

At Gonamena Mine meeting, at Liskeard, on April 14 (Admiral Tucker, R.N., in the chair), the accounts showed a balance in favour of the adventurers of 357*l.* 3s. 5d. A call of 1s. per share was made. Capts. R. Pascoe and J. Pascoe have commenced to sink a winze below the 114, on Venning's lode, about 12 fms. west of cross-course; the lode is 3 ft. wide, composed of beautiful gossan and rich black and grey copper ore. They have set this winze at 6*l.* per fathom for sinking, and 6s. 8d. in 1*l.* for the ore they raise. About 119 tons of copper ore was sold on Thursday.

At the Llywernog Mining Company meeting, held at Moorgate-street, on Monday (Dr. Bridge in the chair), a most satisfactory report was read, and some very fine specimens of lead ore were exhibited, sent by Captain John Davis, the agent, as a fair sample of the lode in the winze sinking from the 50 to the 62 fm. level. This winze is down 5 fms., and for that depth the lode is worth fully 2 tons of lead ore per cubic fathom. A call of 10s. was made.

At Frank Mills Mine meeting, to be held on May 7, the accounts to be presented will show a balance of assets over liabilities of 302*l.* 14s. 4d. A dividend of 1000*l.* (4s. per share) will be recommended. The sales of lead ore during the quarter ending April amounted to 486¼ tons, valued at 4632*l.* 18s. 4d. This shows an increase on the returns of the previous quarter of 25 tons in quantity, and about 287*l.* in value. It should, however, be stated that the parcel of 30 tons sold on April 10 is refuse ore, which has been gradually accumulating for some months past, and cannot, therefore, be entirely considered as the legitimate returns of the present quarter. The committee are pleased to report that during the next quarter they anticipate being able to return a similar quantity of Nos. 1 and 2 as for the past quarter. The committee deeply regret the loss the company has sustained in the death of their manager, Capt. J. P. Nicholls, who faithfully and zealously discharged his duties during the fourteen years he was in their employ. The vacancy has been filled by Capt. J. Cornish, who was second captain for ten years, and has had considerable experience.

At the Anglo-Brazilian Gold Mining Company meeting, on Thursday (Mr. Henry Haymen in the chair), the report of the directors was received and adopted. Details in another column.

The directors of the Port Phillip and Colonial Gold Mining Company have declared a distribution of 1s. per share on account of the twelfth dividend, payable on May 1.

The shares of the Braganza Gold Mining Company are quoted at 3-16ths to 5-16ths prem.

The New Zealand Quartz and Gold Mining Company shares are being taken up fairly; and we learn that the directors contemplate closing the list on the arrival of expected news from their local agent.

COAL MARKET.—The arrivals this week only amount to 125 ships. The demand for all descriptions of coal has continued steady, at last week's currency. Hetton Wallsend, 18s. 9d.; Braddyll's Wallsend, 17s.; South Kelloe Wallsend, 16s. 6d.; Eden Main, 15s. 6d.; Tunstall Wallsend, 15s.; Hetton Lyons Wallsend, 15s.; Thorp Wallsend, 14s.; West Hartley, 14s. 6d.—Unsold, 7 cargoes: 30 ships at sea.

EXPORTS OF COAL.—By the Monthly Circular of Messrs. Higginson' Liverpool, we learn that the quantity of coal exported in March was 761,697 tons, against 753,283 tons in the corresponding month of 1868, showing an increase of 8414 tons. The particulars are—From the Northern Ports, 365,361 tons; Yorkshire, 27,771 tons; London, 6028 tons; Liverpool, 30,959 tons; Severn Ports, 279,441 tons; and Scotch Ports, 52,137 tons. The increase was—From London, 2757 tons; Severn Ports, 69,970 tons. The decrease was—Northern Ports, 41,449 tons; Yorkshire, 5510 tons; Liverpool, 17,314 tons; Scotch Ports, 40 tons. Total, Jan. to March, 1,987,337 tons; Jan. to March, 1868, 1,929,421 tons: increase, 57,916 tons.

THE VAN MINE.—The manager writes that "The lode in the end of the 30 fm. level cross-cut is still very rich. The last 8 ft. of crossing will produce 4 tons of lead ore per cubic fathom. The shaft still produces about 3½ tons per cubic fathom."

PERDU CARTA LEAD MINING COMPANY (Sardinia).—This company's offices have been removed to No. 7, Westminster Chambers, Victoria-street; and Mr. J. L. Montefiore has joined the board of directors. The last report from the mines confirms the increasing richness of the calamine deposit, Capt. Serra calculating the mass in sight at present at 6 metres wide by 7 metres long. Two additional lead lodes have been discovered on the property, and there is now only about 15 metres to be driven to intersect No. 1 lode, which is already yielding good results at the adit. On the whole, the working of the last four months has fully justified the statements originally made regarding the property. In order to give force to some legal formalities, an amended prospectus will be issued shortly, when 300 shares will be offered to the public, in addition to the present subscription.

LEAD MINES AS AN INVESTMENT.

MR. J. H. MURCHISON will shortly publish a PAMPHLET on the "LEAD MINES OF CARDIGANSHIRE AND MONTGOMERYSHIRE," — districts comprising VAN, DYLIFFE, LISBURNE, EAST DARREN, SOUTH DARREN, and other important Mines. Price 6d.
With a MAP, showing the position of the different Mines, arranged and drawn specially for this Pamphlet. Price 1s.
In the meantime, orders for early copies may be sent to Mr. MURCHISON, at his office, 8, Austinfriars, London; and information will also be given relative to Mines in the above districts to anyone wishing and applying for the same.

In the Matter of the Companies Acts, 1862 and 1867,
AND OF
THE GREAT NORTHERN COPPER MINING COMPANY OF SOUTH AUSTRALIA (LIMITED).

THE CREDITORS of the ABOVE-NAMED COMPANY resident in Europe are REQUIRED, on or before the 20th day of May, 1869, and the CREDITORS of the ABOVE-NAMED COMPANY resident elsewhere out of Europe, are REQUIRED, on or before the 20th day of October, 1869, to SEND IN THEIR NAMES AND ADDRESSES, and the PARTICULARS OF THEIR DEBTS OR CLAIMS, and the names and addresses of their solicitors (if any) to Samuel Lowell Price, of No. 13, Gresham-street, in the City of London, the official liquidator of the said company, and, if so required by notice in writing from the said official liquidator, are by their solicitors to COME IN AND PROVE THEIR SAID DEBTS OR CLAIMS at the Chambers of the Master of the Rolls, situate in the Rolls-yard, Chancery-lane, in the county of Middlesex, at such time as shall be specified in such notice, or in default thereof they will be EXCLUDED FROM THE BENEFIT OF ANY DISTRIBUTION made before such debts are proved. Monday, the 1st day of November, 1869, at Two o'clock in the afternoon, at the said chambers, is appointed for hearing and adjudicating upon the debts and claims.
JOHN WM. HAWKINS, Chief Clerk.
VALLANCE AND VALLANCE, 20, Essex-street, Strand
(Solicitors for the Official Liquidator).
Dated this 8th day of April, 1869.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 31	Pool Park	50	£12 17 6	Walker, Parker, & Co.
April 13	Mid-Wales	20	12 4 0	Sims, Willyams, & Co.
16	Great Laxey	100	23 10 6	Burry Port Company.
21	Stiperstones	80	12 5 0	Sims, Willyams, & Co.
22	Wheal Mary Ann	55	24 2 0	Burry Port Company.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
April 21	Stiperstones	20	£4 0 6	Kenrick and Son.

BLACK TIN.

Date.	Mines.	Tons.	c.	q.	lbs.	Price p. ton.	Amount.	Purchasers.
April 14	Kitty (St. Ag.)	10	15	2	7	£76 0 0	£ 819 2 9	—
	Pedn-an-drea	11	5	0	1	—	837 17 6	—
15	Great Wh. Vor.	50	4	2	20	—	3789 2 5	—
	West Godolphin	4	7	2	4	76 10 0	334 16 6	Bolitho.
16	Sou. Condurrow	6	17	3	1	73 0 0	502 16 0	—
17	Kitty (St. Ag.)	12	7	3	1	76 0 0	941 9 8	—
	Penhalls	15	0	0	0	76 5 0	1143 15 0	—

COPPER ORES.

Sampled March 31, and sold at Swansea April 20.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cobre	102	16	£11 2 6	Union Mine	76	10½	£ 6 15 6
ditto	101	15⅜	11 3 6	Cape	31	30¼	21 7 6
ditto	100	16	11 3 6	ditto	16	32⅜	23 0 6
ditto	99	16	11 3 6	ditto	37	31	21 15 0
ditto	84	15⅞	10 18 0	ditto	28	28¾	20 1 0
ditto	54	21⅜	15 1 6	ditto	25	32⅛	22 9 6
ditto	40	33¼	23 13 6	ditto	3	39½	28 0 0
ditto	34	34¼	23 10 6	ditto	61	26⅜	18 10 6
ditto	14	58½	42 2 6	ditto	24	32¼	22 19 0
ditto	11	56	39 16 6	ditto	18	31⅛	21 19 6
Knockmahon	126	10⅞	7 14 0	ditto	4	32⅜	23 0 6
ditto	123	9¼	6 9 6	ditto	4	30	21 0 6
ditto	124	9⅜	6 14 6	Currawang	25	23¼	16 12 0
ditto	115	9¼	6 8 6	ditto	27	22½	16 1 6
ditto	66	5	3 2 0	ditto	41	27¾	19 17 6
Moonta	80	15¾	11 1 0	ditto	3	38¼	27 7 0
ditto	79	15⅝	11 1 0	ditto	36	25	17 15 0
ditto	78	15¾	11 1 0	ditto	27	23¾	16 16 0
ditto	82	17⅛	12 5 0	Ballycummisk	101	10⅜	7 5 0
ditto	81	17⅜	12 5 0	ditto	14	8	5 9 0
ditto	102	16½	11 16 0	Cawsand Vale	23	9⅜	6 13 6
Berehaven	94	9⅜	6 16 0	Fortune	83	17⅛	12 7 6
ditto	84	6¾	4 12 0	Gwalla	68	18¾	13 9 0
ditto	80	6¾	4 12 0	Precipitate	17	61½	41 0 0
ditto	120	7	4 15 6	Residuum	9	27½	19 10 0
Union Mine	102	7⅜	4 16 0	Copper Slag	2	6	3 12 0
(Tilt Cove)	100	7¼	4 16 0				

TOTAL PRODUCE.

Cobre	639	£8991 11 6	Ballycummisk	115	£ 808 11 0	
Knockmahon	554	3544 0 0	Cawsand Vale	23	153 10 6	
Moonta	502	5819 4 0	Fortune	83	1027 2 6	
Berehaven	382	1993 16 0	Gwalla	68	914 12 0	
Union Mine	278	1484 10 0	Precipitate	17	697 0 0	
Cape	251	5295 12 6	Residuum	9	175 10 0	
Currawang	159	2838 11 0	Copper Slag	2	7 4 0	

COMPANIES BY WHOM THE ORES WERE PURCHASED:—

Names.	Tons.	Amount.
Copper Miners' Company	651½	£7160 13 0
Freeman and Co.	205⅓	3336 2 0
P. Grenfell and Sons	496⅓	4510 8 6
Sims, Willyams, and Co.	203	3970 5 0
Vivian and Sons	474½	5434 10 6
Williams, Foster, and Co.	543⅔	6949 11 0
Bankart and Sons	292	2349 7 0
Charles Lambert	14	76 6 0
Sweetland, Tuttle, and Co.	202	969 12 0
Total	3082	£33,750 15 0

—Copper ores for sale at Swansea, May 4—Knockmahon 123, 124, 72, 134, 119, 79 Moonta 64, 70, 18, 9, 4, 56, 47, 1—Paramatta 71, 55, 53, 29—Berehaven 75, 76—Copper Slag 50—Copper Ore 1.—Total, 1404 tons.

TOTALS AFTER 21 cwts.

	Produce.	Price.	
Whole sale	3082	£10 19 0	£93 9 0

COPPER ORES.

Sampled April 7, and sold at the Royal Hotel, Truro, April 22.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols.	121	£4 11 6	Marke Valley	50	£7 14 6
ditto	119	5 3 6	ditto	36	1 18 0
ditto	118	5 0 0	East Caradon	77	4 16 6
ditto	115	2 12 6	ditto	76	4 16 6
ditto	112	4 11 6	ditto	41	2 9 0
ditto	102	4 15 6	Okel Tor	86	1 15 6
ditto	101	4 10 6	ditto	56	5 3 0
ditto	99	2 15 6	ditto	38	2 16 0
ditto	93	2 2 6	Gawton	75	3 13 6
ditto	81	2 13 6	ditto	32	7 19 0
ditto	80	2 12 0	ditto	28	1 5 0
ditto	77	2 3 6	Gonamena	72	4 17 6
ditto	55	3 7 0	ditto	29	3 10 6
ditto	50	3 9 0	ditto	18	2 1 0
ditto	35	3 9 0	Kelly Bray	84	3 14 6
ditto	33	5 15 0	ditto	16	9 11 6
ditto	27	11 0 6	Prince of Wales	37	6 16 0
Marke Valley	92	2 16 6	ditto	36	8 4 6
ditto	88	2 9 0	ditto	27	7 19 6
ditto	82	6 4 0	Hingston Down	83	2 12 6
ditto	80	6 8 6	Bedford Consols	9	3 7 0
ditto	65	3 2 0			

TOTAL PRODUCE.

Devon Great Con.	1418	£5547 3 6	Gonamena	119	£ 490 2 6	
Marke Valley	488	2141 16 0	Kelly Bray	100	466 2 0	
East Caradon	194	838 13 6	Prince of Wales	100	763 0 6	
Okel Tor	180	547 9 0	Hingston Down	83	217 17 6	
Gawton Copper	135	565 0 6	Bedford Consols	9	30 3 0	

Average standard ..... £109 3 0 | Average produce 6¼
Average price per ton £4 2 0
Quantity of ore ..... 2826 tons | Quantity of fine copper .. 177 tons 11 cwts.
Amount of money £11,607 8 0
LAST SALE.—Average standard ..... £108 18 0—Average produce 5⅞
Standard of corresponding sale last month, £110 2 0—Produce, 6⅛.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	600	£2513 9 6
Freeman and Co.	175⅔	482 4 6
Grenfell and Sons	382	1772 14 0
Sims, Willyams, and Co.	186⅔	947 3 6
Williams, Foster, & Co.	637⅓	2557 17 9
Mason and Elkington	152	700 11 0
Bankart and Sons	241	602 9 6
Copper Miners' Company	251	1063 16 0
Sweetland, Tuttle, and Co.	220¼	967 2 3
Total	2826	£11,607 8 0

Copper ores for sale at Tabb's Hotel, Redruth, on Thursday next—Mines and parcels.—South Caradon 502—Clifford Amalgamated 212—West Damsel 204—Phœnix 204—Great North Downs 185—North Treskerby 83—Craddock Moor 82—Crinnis Consols 80—Pennance 53—Old Pembroke 1.—Total, 1606 tons.

Copper ores for sale at Tyack's Hotel, Camborne, on Thursday week—Mines and parcels.—West Wheal Seton 567—East Wheal Grenville 254—West Wheal Basset 200—East Rosewarne 162—South Wheal Crofty 161—East Pool 161—Copper Hill 82—North Roskear 62—North Crofty 58—South Wheal Frances 58—Wheal Buller 24—Feock's Regulus 20—Champion's Ore 20—North Basset 15—Rosewarne Consols 10—Wheal Grenville 5.—Total, 1859 tons.

Notices to Correspondents.

NICKELIFEROUS ORES.—Being a resident in Spain, I take the liberty (through my friends in England) of asking a reply, through the medium of your Journal, to which I am a subscriber, to the following questions. As I am the owner of a mine producing mineral containing 4½ per cent. of copper, and about 20 per cent. of nickel, the rest being iron pyrites, sulphur, and arsenic, what I should wish to know is—1. Whether there is any likelihood of a ready sale in England, and at what price per ton, as I am prepared to sacrifice the copper should the price of nickel enable me to send the ore to England?—2. The name and address of any firm who would be likely to purchase the same.—AN ADVENTURER IN SPAIN: *Huelva, April 5.*

[The principal purchasers of this kind of ore are—Messrs. Evans and Askin, Birmingham; Mr. Stephen Barker, Birmingham; and Messrs. Vivian and Son, Swansea. Samples sent to either party will receive prompt attention.]

LEAD MINING IN FLINTSHIRE.—A pressure of engagements prevented me noticing the second letter of "A Flintshire Miner," in the Journal of the 10th inst. I have a dislike to anonymous writing when under such a mask personalities are indulged in. I decline, therefore, to argue with such persons, and shall not further notice this particular "Flintshire Miner." I may, however, trouble you shortly with a paper on the general question.—L. MARTIN.

ROCK-BORING MACHINES.—In answer to "Enquirer," we are informed that "Mr. Henry Brenton's machine may be classed amongst those which bore holes, in which the powder is deposited to blast the rock. Its speciality (the result of several years' practical experience with these machines) is that the few necessary movements required are in the interior thereof. It is designed with a view to durability and simplicity, and is perfectly automatic—thus enabling the operator to work with common bits on the borer, which any mine smith can make and keep in repair. The conditions on which the patent is to be sold (see advertisement columns) are such as to warrant the belief that the inventor has the utmost confidence in the designs."

BORING MACHINE.—Will Mr. H. Brenton state where his boring machine can be seen; also in what particulars his machine differs from that of Mr. Crease? Mr. Crease's model having been constantly before Mr. Brenton in East Gunnislake count-house, he can do this in a very few words, and, as he had full access to the books there, perhaps he would add what duty these machines did in hard and soft ground respectively.—OBSERVER: *Gunnislake.*

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, APRIL 24, 1869.

THE LABOUR QUESTION.

The prominence with which the labour, or wages, question has lately forced itself upon public attention proves that it is one of those subjects of commercial interest the importance of which it is almost impossible to over-rate. Skilled and manual labour *versus* capital always has been, and probably always will be, one of those questions which has puzzled and perplexed commercial communities. Sound and practical men of experience have endeavoured to solve the many difficulties which surround it; legislation has, in many instances, stepped in with the view to placing matters upon a satisfactory basis, but all efforts have hitherto failed, and it must be apparent to the most superficial thinker that in a free country neither the exertions of practical men, however well intentioned, nor legislative enactment can regulate those questions which constantly arise between capital and labour. The skilled mechanic—the puddler, the furnaceman, or the collier—has each and all the most perfect and legitimate right to dispose of his capital—*i.e.*, his labour—in the best market, whilst the employer or the capitalist can accept or refuse to purchase the labour at the terms upon which it is offered him. All, therefore, which can be done is by sound logic and practical argument to demonstrate to both that their interests are identical—that the prosperity of the one is naturally the prosperity of the other; and, *vice versa*, depression of the staple trade and commerce of the country must lead, as a natural sequence, to a corresponding reduction in the rate of w[illegible] Whilst rejoicing, as we do, at the efforts which have [illegible] upon a satisfactory basis, and [illegible] establishment of Boards of Arbitration as a step in the right direction for terminating those disastrous "strikes," which have decimated once populous districts, and brought poverty and ruin into the homes of thousands of artizans and labourers, still we contend that until the practical lesson of supply and demand, of prosperity and depression of trade, shall have been taught our working men all other efforts will be comparatively of no avail. The great bulk of our labouring population of the present day seem to entirely ignore the keen competition which the manufacturers and merchants have now to submit to with foreign countries. The mechanic and the artizan bemoan their condition, that they are not fully occupied; they agitate for increased wages, but ask them to accept work at 1s. per week less money than the "society" standard, and a cry of alarm is at once raised, and probably a "strike" threatened. There is not a manufacturer in this country—no large employer of labour—who has not now to contend with a foreign competition altogether unknown some 20 years since. The iron works of the Continent, and also of America, are rivals whose existence and whose products cannot be longer ignored, or lightly regarded. The continental tin-plate works, and the South American copper smelting-works, and the collieries which are being opened up in various foreign countries, must all have telling effect upon English make and English prices. In a word, young and vigorous colonies (if we may be allowed the expression) are springing up from the parent English stock. In many instances the raw material of manufacture is found in the immediate locality—manual labour is at least 25, in many cases 50, per cent. cheaper than in England, and, consequently, the cost of production materially reduced. There is no workman in the world whose labour is more appreciated than that of an Englishman, no mechanic more skilled, and none more capable of enduring the continuous hard work—the strain of nerve and muscle necessary in the production of the staple trades. On the other hand, there is no more speculative and enterprising nation than that of England—there is not a clime her merchant vessel does not visit, not a country but her enterprise explores and her trade is carried into; but we want our labouring population to know and to feel that the efforts put forth by the merchants and manufacturers must be seconded by the sons of toil. We have every confidence in England's greatness and stability—in her commercial prosperity, provided her artizans and labouring class go hand and hand with her manufacturers and merchants. Other things equal, England may still bid defiance to the whole world in the production of those staple commodities upon which her present greatness has been built, and upon which her future commercial prosperity so much depends; but unless wages are regulated with some regard to trade depression, and the cheaper rate of production upon the Continent and elsewhere, we shall still have to mourn over loss of trade, and may expect to see German, French, and American firms accept large contracts at prices which would be positive ruin to the English maker. Our English artizans and mechanics may depend upon it that it is the continual demand made by them for increased wages which is to a great extent the cause of the present depression in many of the chief branches of industry. Within the past 10 or 12 years wages have increased at least 15 or 20 per cent., whilst it is notorious that the prices obtainable by merchants and makers are some 20 per cent, less than they were years since. Manufacturers have thus two important elements to contend against—high wages and low and falling markets, consequent upon keen competition. Merchants and capitalists naturally hesitate to erect large works, or enter into fresh contracts or speculations, in consequence of this incessant demand for more wages on the part of the mechanic and labourer. They know full well that no sooner are the works in active operation than they are liable to sudden stoppage, at the caprice of interested persons, or the "fancy" on the part of the workmen that the masters have prosperous times, and can afford better wages.

This, we repeat, is the great cause of the present depression amongst our staple trades, and it is one which our labouring population generally, if they would read the signs of the times, should not fail to regard and keep constantly in view. We have it upon most reliable authority that only a few days since a large manufacturer in South Wales wished materially to enlarge his works, and to add another branch thereto. He had plans and specifications prepared, and calculated that his enlarged works would give employ to about a hundred additional hands. Upon, however, making enquiries he found that the cost of making the extensive alterations and additions would be so much beyond his calculations, consequent upon the high rate of wages to mechanics generally, that he was at once compelled to abandon the idea. This is no solitary instance, but it should not be disregarded. We have no desire to see our working men's wages cut down to a low ebb—we have the deepest regard for their interests and welfare, and are most solicitious for their continued prosperity; and it is this feeling which has actuated our writing in the spirit we have. Let our working men have faith and confidence in their employers—let them feel that their interests are mutual and indissoluble. Let them not be so ready and anxious to demand increased pay upon the slightest "spurt" of commercial activity—let them rather have confidence that, should "good times come again," the masters will readily and cheerfully recognise the claims of their workmen, and advance their wages in accordance with the better prices obtained. Should such a feeling be promoted between master and man, we have still every faith in England's onward career, notwithstanding the keen competition she may be called upon to endure, and may expect to see something like the commercial activity which a few years since characterised our country, when the working classes felt satisfied with a "fair day's wage for a fair day's work."

UNIONISM, AND SAFE MINING.

Membership in a Union not unfrequently gives colliers an undue assurance as to the tenacity with which they can hold on to an engagement in any particular colliery when once they have it. Proprietors who have the misfortune to be located in districts where Unions are strongest know well how the control naturally attaching to their position is interfered with by Union combinations. A collier may be able to abide successfully the test which is applied to him when he is taken on; but once on, whatever may be the real motive of his employer in serving him with notice to leave, every effort will be used to contort that motive into an attack upon Unionism. To avoid the consequences which now and again ensue in such cases, and which lead to derangement in respect of whole crews of men, employers often keep men in their service longer than, but for the unfair pressure pointed out, they would be retained. The result, it is easy to see, is not only to the disadvantage of thoroughly reliable and trustworthy men, but likewise the endangering of the safety of all.

These same combinations have a similar effect upon the working of collieries without undue risk, by checking the supervising influence which one collier should always exercise over the conduct of another whilst work is being carried on. There is in every man sufficient reluctance against making himself disagreeable by complaints to prevent an unnecessary interference in the majority of cases; but when men are bound together after the manner of some of the Union associations, the fear of the result in a fancied infringement of "brotherhood" often prevents a salutary determination not to pass by any proceeding by a fellow-miner which ought to be registered as a complaint in the proper quarter. No wonder, therefore, that employers should begin to arouse themselves with a view to get rid of the injurious working of Unionism, the ill effects of which in the working of a property display themselves at almost every turn.

We have been led to make these remarks because of the humiliating truth which came out at last Monday's inquest, at Park Lane, near Wigan, to the effect that miners who passed the best examination were almost invariably the least to be trusted. If from any cause whatever a collier sees danger looming and declines to report it, he is morally accountable for the consequences which a less irresolute and unmanly course would have averted. No considerations of Unionist brotherhood, or anything else, should prevent colliers from carrying out with an unswerving resolve the rules of his colliery in this vastly important respect.

CHEAP RAILS IN STAFFORDSHIRE.

It is announced that a South Staffordshire firm in the finished-iron trade had just taken an order for some 20,000 tons of rails for a line in Hungary. The order is of so unusual a character for Staffordshire that it merits more than passing attention, especially as a London trade report states that "the rail trade is lost to Staffordshire." For some time past it has been lost to the district, but circumstances have combined to make it possible for the proprietors of mills and forges there to turn their attention, with some little prospect of success, even to that department of their industry. Everyone knows that rails are produced mostly in those districts in which iron of the cheapest kind is turned out. Hence South Wales and the Cleveland district are the great centres of that trade. Time was when South Staffordshire was the locality whence the railways obtained the bulk of their supplies. But that time was early in the history of iron roads and steam horses. It was when good iron only was deemed economical, and when the rails were of a much lighter character than are those now generally used. When there sprung up a sharp competition in the railway world, and when the engineers found that an increasing traffic called for heavier locomotives, and, therefore, for heavier rails, the trade began to leave South Staffordshire. The JOHN BRADLEY and Co.'s, and the G. B. THORNEYCROFT and Co.'s, could not compete in price with the South Wales firms, much less with those of the Cleveland district; and remembering that the tendency of the trade was in the direction of cheapness, they could not see that in a diminishing market their interest lay in the investment of the capital necessary to the production of heavy rails of a high class. And if they had hesitated on any other score, the dawning of the day of steel rails would have still further confirmed them in their course of inaction. Of the kind of iron of which the early-made South Staffordshire rails were rolled, a striking illustration came under our notice not long since. Rails which had been laid down on the Birmingham and Gloucester line (now with the Gloucester and Bristol, a portion of the Midland system), but which were too light for the heavy locomotives now running, and were, therefore, taken up and sold, were purchased by a South Staffordshire firm, at a price considerably in excess of that at which new rails were at the same time being made and sold in South Wales and in Cleveland. Such was the quality of the old rails that they were cut up and piled, and ultimately rolled into plates.

Whilst a few rails of this quality are still being turned out in South Staffordshire, chiefly by firms having a close relationship with railway companies, the 20,000 tons of which we speak will be very different articles; so, too, will be the prices. An ironmaster of no mean ability, at a recent meeting of masters in Birmingham, used a simile with respect to the trade of that district in certain kinds of iron which applied to his confreres to represent the true state of things. He likened their district in its Mid-England position to certain tracts of sand on the Lancashire coast. Lying a long distance inland, the advancing tide had to submerge great wastes before the space abutting upon the stable coast could be refreshed, and this happened only at high tides. Before export orders for iron of a class considerably in demand in some foreign markets can be secured in South Staffordshire the districts nearer to the ports had, according to his theory, to be tolerably well occupied, if not, indeed, filled up for a time. This was of a necessity at once from the high railway charges for carrying to the ports, and from the greater abundance of the cheaper materials on the coast. The existing case is singularly confirmatory of the truth which underlies the Birmingham illustration, as well in the South Wales as in the Cleveland district, there has lately been so excellent a demand for rails that most of the firms there have filled up their books for some time to come; and prices have risen to a point some 1*l.* a ton higher than the lowest at which they have had to be quoted.

Now then had come the time if ever for South Staffordshire to get large rail orders. Assuming the conditions of a quarter of a century ago unaltered, she could not even yet get them. But those conditions have altered. South Staffordshire now produces not only iron of first quality from her best argillaceous stone, but also iron of a less valuable kind from materials not before supposed to be capable of producing that metal. At the same time she has so adapted her smelting apparatus to the necessities of the competing times that she can extract the iron from the materials at a cost in fuel much under that of some years ago. Hence certain proprietors of mills and forges believe that they can make light rails at (say) 6*l.* 10s. at the works at a profit, and they have undertaken to try. We wish them success. It is easy, however, to understand that when the demand shall have subsided the orders will not be procurable, for the coast-line districts will be again open to take specifications, and prices will have drooped to a level which cannot be accepted in Staffordshire. There are old houses in South Staffordshire who have very little confidence in a profit being got even at 6*l.* 10s.; this belief is entertained not so much because of the impossibility of pig-iron being bought at sufficiently low rates as to leave a margin of profit, as from the difficulty of turning out in the Staffordshire mills quantities large enough to make the trade remunerative. The men, however, who have gone into the trade believe that they can make a profit without much further outlay in respect either of rolling machinery or of furnaces, and they urge that the outlay will be available for the production of those kinds for which South Staffordshire has become well known, and for which it is only reasonable to conclude that there will be a much better enquiry than now immediately that the demand for rails has receded to the level at which the districts near the ocean highways can alone be benefited. The extent to which rail orders shall be accepted in South Staffordshire during the subsisting demand will be a guide to the probabilities of the future, with relation to the cheap rail trade in Central England. In any event, we have the fullest confidence in the pig-iron makers of that district that they will do their part to enable the proprietors of mills and forges to accomplish all that is possible under the adverse circumstances of locality. We hope that the railway and the canal companies will do theirs, and so encourage traffic, of the want of which they are now complaining loudly.

THE COLLIERY EXPLOSION NEAR WIGAN.

The previously announced list of 35 deaths has now risen to 37, as the result of the explosion on the 1st inst. in the Four-feet workings, at the Higherbrooks Pit, at Messrs. MERCER and EVANS's Park Lane Colliery. The coroner's jury have completed their enquiry into the facts, and have arrived at the conclusion that the accident occurred from "an explosion or explosions" of gas in the Four-feet Mine, that gunpowder had to a great or less degree contributed to the explosions, and that the explosions originated, "in all probability," with LEYLAND'S blown-out shot, fired by the deceased fireman, GORTON; but how the gas came to be present "there was no evidence to show."

Supplementing the particulars given a fortnight ago, we state here that the distance from the downcast shaft (which was nearest the scene of the explosion) to the jig-brow is 260 yards; from the jig-brow to the fault leading into the Five-feet seam is 160 yards; the distance traversed by the air round the Five-feet workings before it reaches the fault again is 655 yards. There the air enters the Four-feet workings, and from that point to the top of the up-brow, out of which the working places are commenced, is 160 yards. The distance travelled by the air in the brow, and in the entries down to the bottom of the brow, is 160 yards; from the bottom of the brow to the places on the higher level, 125 yards; from the places on the higher level, round the lower side workings, to the last working place in the intake, 195 yards; and from the last working place to the upcast shaft, 805 yards. The total distance traversed by the air in the mine is 2520 yards. The mine is very flat throughout, the dip being about 1 in 8. There are about 85 yards of bratticing in the five end-ways, upon the up-brow. On the lower level, and the places on the lower side the length of bratticing is 55 yards. These facts we obtain on the testimony of Mr. C. F. CLARKE, surveyor and mining engineer to Sir ROBERT GERARD, proprietor of the Ashton Mines, of which the Park Lane Colliery is a branch. The quantity of air passing up the jig-brow, Mr. HIGSON, the Government Inspector, found on the day after the explosion to be, according to DICKENSON'S anemometer, 8360 feet, and 5415 feet according to BYRON'S. On the 14th inst. he found that DICKENSON'S was correct; and that, therefore, the measurement was 7520. The quantity of air passing through the Four-feet workings was 3900 feet. Every working place he found "perfectly clear and cool." He did not find a "piper" in any of the workings. In the Four-feet workings, in 13 or 14 places the roof and sides were burnt. These strong indications convinced him that the fire had been very intense in the Four-feet. In the Five-feet there was not a single trace of fire.

Mr. JOHN MERCER, who is the principal proprietor of the collieries, and who takes an active part in their management, and also WILLIAM SHARROCK, who had been his under-looker for five weeks before the accident, both gave testimony showing that it was their belief the explosion of gunpowder occasioned the accident. The dust, the latter explained, is so light and inflammable, and the mine so low, that an explosion would raise the dust, and it would take fire on coming in contact with flame. No other mines are so dusty, and in no other is the dust so dry and inflammable. This character of the dust in the Arley Mine rendered, in the under-looker's opinion, that mine so inflammable as it had proved. To confirm his own views on the same subject, Mr. MERCER had thrown a handful of dust over a smithy fire, with the result that a flame rushed up to the height of about 6 ft. Mr. MERCER had no doubt that the dust on the floor of the mine must have ignited. The Four-feet workings, he said, were always free from gas, but the Five-feet gave off small quantities when they were neglected. Mr. MERCER based his opinion as to there having been no gas chiefly upon the daily reports he had received from the under-looker, who reported no gas. In reply, however, to Mr. HIGSON, Mr. MERCER admitted that at a former explosion no gas had been reported, but that it was afterwards proved that the explosion was one of gas. He had not been in the habit of going down the pits frequently. Giving them instructions at the top, he left much of the underground management to the under-lookers and firemen. He knew that the air of the Five-feet went into the Four-feet, but he did not think it probable that gas had come from the Five into the Four-feet workings. Five cans of powder it was shown had exploded, and they would have contained an average of 2 lbs. each. These were ignited, Mr. MERCER had no doubt, by the blow-out shot in the workings of the man LEYLAND, who had ignited the powder which fired the dust.

Mr. HIGSON, however, attached but little importance to the dust, attributing the cause to that at which we hinted a fortnight since—the existence of gas—although the effects were no doubt aggravated by the explosion of powder. "If the coal dust had been travelling along in a great burning cloud it would have stuck on to the sides and burnt the coal." His opinion was that there had been some door wrong, or some disarrangement of the bratticing, and it seemed to him that if the cloth doors at the bottom of the downbrow had been knocked down the ventilation of the wagon roads of the two deep levels would be destroyed. During the time that the doors were down gas might accumulate there, and that the deceased fireman, when he came in to fire the shot, found the doors down, and unthinkingly put them up. Thus, he would cause the air to drive the gas along the passage to LEYLAND'S place, at the time the shot was being fired. If this was not so, then the cloth door of the slant-way must have been down, and the works left altogether without air. If either of the state of things which Mr. HIGSON indicated existed at the time—and he could hardly believe that they did not—if proper means were adopted the ventilation would take its proper course, and if gas had accumulated during this temporary suspension it would have been driven round just past the shot hole. The evidence of other witnesses tended

to show that the fireman was not the most trustworthy, for he had reported as safe the workings of a witness who afterwards found a considerable accumulation of gas in it; but it does not transpire that his neglect on that occasion reached the ears of Mr. MERCER. That gentleman, in reply to the Government Inspector, admitted that he believed him to be a man who was "fond of his beer," but who, nevertheless, attended to his work. Mr. HIGSON was not disposed, however, to cast any blame upon the memory of the fireman, for it was difficult to believe that the poor fellow held his life so cheaply as to fire the shot without examining the place. Mr. HIGSON believed that he might have put the ventilation right, and gone on and fired the shot without consideration or thought. The diffusion of gas throughout the works might have deceived him.

Upon the point of the continuance of the practice of blasting in this seam, the underlooker himself recommended that it should be discontinued, and the views of the Government Inspector upon the point are very decisive :—

The CORONER: Do you think it desirable to continue working this and similar mines by blasting operations?—Mr. HIGSON: No; and I have thought so for a long time. A few months ago I suggested to the Secretary of State that blasting should be forbidden in fiery mines. I sent to every colliery proprietor in my district a copy of a circular, containing certain suggestions and recommendations, one of which was to this effect: "The great loss of life from the unskilful use of gunpower clearly proves that blasting in mines which emit inflammable gas should be at once discontinued for getting coal. In those mines which do not give off gas it should only be allowed under competent supervision." I sent that circular out as a sort of forerunner of what might follow some day. I sent a copy to Mr. MERCER, and it appears he did not pay much attention to it, because he did not stop the blasting.

Mr. MERCER: It was not an order to stop blasting.

In reply to the Coroner, Mr. HIGSON said he would not only stop the blasting, but he would take care to see that the ventilation was increased.

We have not space at this time to draw attention to less important remedial measures, which the facts of this disaster suggest. They must form the subject of some observations for next week's Journal.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

Patent Agent and Adviser, Memb. Soc. Arts, Assoc. Soc. Eng.

The industrial world will learn with pleasure that the Dutch intend holding an Exhibition of products of the useful arts at Amsterdam. We are not quite certain as yet what will be the extent of this Exhibition, but we trust that it will include a variety of manufactures. A paper was read at the Society of Arts, on Wednesday evening, by Capt. Robertson, of the Designs Office. The subject was one of great importance to the metal industry. The present writer was the first who called attention to the propriety of a system of registering trade marks, and propounded a project for an available method of carrying this somewhat difficult object into effect.

Among recent specifications of patents is a very important one, filed by M. DENAYROUZE, whose name may be remembered in conjunction with M. Rouquayrol as having patented arrangements suitable not only for divers, but for persons working in confined atmospheres, such as mines. The dress for divers is made of India-rubber, or other similar waterproof material, and has sleeves and cuffs. A collar of elastic fabric is sewn, or otherwise attached, to the neck. The horizontal portion is perforated with holes. The helmet, or head piece, for divers consists of two parts—a spherical part, which covers the face and back of the head, and a collar or neck piece. The spherical part has holes in it, in which eye glasses are placed. The bottom of the spherical part and the top of the collar, or neck piece, are fitted with rings, in which are holes corresponding with those on the collar of the dress; these rings are covered with caoutchouc. The horizontal throat piece, or neck piece of the collar, is attached to the metal neck piece by pins, bolts, or screws, tightened so as to form a staunch joint. The helmet may be used in ordinary diving, and also when air is supplied directly into the diver's dress; in the latter case it has a short air-supply tube and an air-discharge valve. The helmet may also be used by divers employing the compressed air reservoir arrangements, patented by Mr. HENRY (as a communication from M. Rouquayrol) and by M. DENAYROUZE by British Letters Patent, dated respectively March 28, 1864, and July 12, 1865, in which air is supplied to the diver from an air chamber or reservoir, carried by him. In this case the tube and the valve opening have plugs or stoppers, and the inhaling pipe is screwed on to the neck of an air opening, and a hook is provided to suspend the air chamber.

WINDING-MACHINES.—Mr. JOSEPH HETHERINGTON, of Manchester, has patented some improvements in or applicable to machines for winding yarn or thread. His improvements relate to mechanism for winding yarn or threads from the hank or bobbin into the "cop" form, such cops being wound either upon the bare spindle or upon paper or other tubes, and his improvements consist in combining with ordinary mechanism arrangements for distributing the yarn or thread, so that it may be wound into the cop form. The threads may be distributed by an oscillating "faller-wire," or by a copping-rail, sliding up and down. In double-sided machines the two faller-wires, or copping-rails, are connected to move simultaneously, and motion is imparted thereto by levers, rods, toothed racks, or other suitable mechanism, which is acted upon by a reciprocating or rotary "shaper," similar to those employed in self-acting mules, such shapers being made to reciprocate or rotate by suitable gearing from the drum or roller driving the spindles. The shaper mechanism may be altered as required to build the cop, the same as in the self-acted mule, or by placing the bowl acted upon by the shaper on a slide in a lever, using a screw for traversing the bowl laterally when a rotating shaper is employed.

OBTAINING MOTIVE POWER.—Mr. GEORGE WARSOP, of Bromley-place, Nottingham, in specifying his invention for improvements in obtaining motive power by means of air and steam, and in apparatus employed therein, says—The machinery which I employ consists of a steam-boiler and an engine, which may be similar to those now in use, and the engine works an air-pump or pumps, drawing in cold air and forcing it through a coil of pipes or other suitable chamber heated by the furnace, and from this heated coil or chamber the air passes into the boiler, and is caused to rise in a finely divided state through the water therein contained. The air and steam together pass from the boiler to work the engine. I prefer to open and close the valves of the air-pump at suitable times by means of cams, as the pumps then work more efficiently than when the valves are self-acting. The heating of the air after it leaves the pump or pumps may be effected by passing it through hollow fire-bars, or apparatus such as is now employed for superheating steam may be used for heating the air. The air is caused to be finely divided as it passes through the water, by means of partitions of wire-gauze, or other open work or perforated material.

PRECIPITATING COPPER.—Mr. GUSTAV BISCHOF, jun., of Bonn, has patented some improvements in the precipitation and separation of copper from its solution. When precipitating solutions containing copper with spongy iron by the means hitherto known the latter is liable to cake together, and to form cakes or small lumps only externally coated with copper, the interior still containing a large proportion of metallic iron. To obviate this, he effects the precipitation in apparatus consisting of a large wooden cask, suspended horizontally on axes, supported in bearings on suitable standards. The cask has in its interior four or other number of longitudinal partitions extending radially from the circumference towards the centre. Spongy iron or cupriferous liquor having been introduced into the cask, an intimate mixture is effected, without any caking of the contents, by turning the cask slowly on its axes. After finishing the precipitation of copper, the so-called spent liquor is run off from the cask. To make sure that no particles of the fine precipitate are carried away in running off the spent liquor, and at the same time to accelerate the separation of the precipitate from the liquor, Mr. Bischof passes the latter through a filter of the following construction :—He takes a tank of appropriate size, having about 6 in. above its bottom a perforated false bottom, on the latter is put a bottom of wickerwork; then he spreads uniformly on the top of the latter such a quantity of moss as when firmly compressed forms a layer of from 2 to 3 in. thick; over this there comes again a bottom of wickerwork, and finally another perforated false bottom, which latter is then firmly pressed down. To accelerate the running off of the liquor from this filter is arranged at any convenient place between the bottom of the tank and the lower false bottom a tube which, when once filled with the liquor, tends, like the column of mercury in a barometer, to create a vacuum underneath the filter, thus effecting a rapid separation of the precipitate and liquor.

COATING IRON AND STEEL.—Messrs. J. C. COOMBE, of Alfred-street, Barnsbury, and ST. GEORGE GREGG, of Lombard-street, in their improvements in coating iron and steel, and protecting such surfaces from the corrosive action of sea or salt water, and the oxidising influences of damp air, wet, and moisture, apply a priming of varnish, made of lac, gum juniper, or any of the gum resins, dissolved in naptha, pyroacetic ether or spirits, or any menstruum capable of taking them up (by preference they use spirits of wine for that purpose). This priming is applied as a first coat directly to the surface of the metal, the latter being first heated by any suitable appliance, such as a brazier or hot-air blower, and the varnish then laid on with a soft brush while the metal is hot.

AMERICAN COAL AND IRON.—New lines of railway have been projected in the State of New York alone to the extent of 163 miles. A favourable report has just been presented to the share and bond holders of the Pittsburg, Fort Wayne, and Chicago Railway Company. With regard to the Lawrence branch, it is remarked that the rapid development of the iron manufacture in the Mahoning valley, and the prospective creation of a large coal traffic between points on the New Castle branch over the Lawrence road to Cleveland, give promise of remunerative returns. The extension of the Akron branch south of Millersburg, Ohio, to coal fields in that district has been completed, but thus far the results obtained have not equalled the expectations of the directors. It is expected, however, that the favourable position of the coal lands, and the superior quality of the coal to be obtained, will shortly attract the experience and capital required for the proper development of the business. With regard to the Massillon and Cleveland Railroad, the directors of the Pittsburg, Fort Wayne, and Chicago observe that it will develope a region known to be peculiarly rich in coal deposits. The present production of the mines now open in the coal field through which the new road is being built is 1500 tons per day.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 22.—There is very little change to notice in the state of the Iron Trade. In North Staffordshire there is a steady, but not very active, demand. In South Staffordshire there would appear to be quite as much doing as there was, and perhaps a little more. A good many works are going four days in a week. Prices are stationary in South Staffordshire, but a good deal of Welsh iron is used in the district for hurdles, and other purposes, and the price is rather tending upwards. Pig-iron here shows no change lately, but the prices of last autumn cannot be obtained. The improvement of the trade in the North of England, from whence a good many pigs come to South Staffordshire, operates to prevent a further reduction.

A writer in the *Wolverhampton Chronicle*, well acquainted with the iron in the Cleveland district, points out in an article this week how increasingly onerous the competition of the district is becoming :—

"Cleveland has now established such an extensive connection with the Baltic ports, that regular lines of steamers ply between the two localities during the summer, hence not only can iron be delivered in Russia, for instance, considerably under what Staffordshire houses could supply it at, but the sea freights are also so reduced by the amount of traffic to be carried, that a still further disadvantage is placed upon our makers. Cleveland can, in fact, deliver iron at Cronstadt cheaper than our makers can get it on board in the Thames or the Humber, and, therefore, it is no wonder merchants are gradually placing a large proportion of their orders for merchant iron in the new manufacturing district of the North. This does not apply so much to the higher classes of iron, for which this locality has a deservedly high name, but it must be remembered that the make of best iron is only a minor part of the iron trade of the Black Country. Even the Canadian trade, *via* Liverpool, is tapped by North Staffordshire, which district not only enjoys special means of making a superior quality of iron at a cheap rate—its blackbands and hydrated oxides forming pure and valuable ores—but it is within several shillings a ton nearer to Liverpool. All these facts are making the position of the iron trade in Staffordshire more difficult to move, and less sensitive to the operations affecting the export trade, than was formerly the case."

It would be folly to deny that there is much truth in this statement. Three failures in Birmingham and the district, of no large amount, are reported this week. One is that of Messrs. Smith and Son, of the Toll End Iron Works, who have not long started, and the proprietor of the works has put a person in possession, to secure payment of the rent.

A reduction of wages in the wrought-nail trade has been determined upon by the nailmasters, who say that they have adopted this course in order to put themselves on a level with the "foggers"—persons who give out iron to the men, and who are said to make various deductions, by the "tommy-shop" system, from the nominal prices paid. It is stated that if the competition of the foggers can be put a stop to, wages will again be raised. A correspondent of the *Birmingham Daily Post*, who is described as having special means of information, gives the following sketch of this "fogging" system :—

"Foggers or truck-masters, who are generally regarded as one of the worst evils of the trade, are a kind of middle men between masters and [illegible]. They are usually shopkeepers, with a small capital, who undertake to provide the masters with the various sorts of nails required, paying the workmen by ticket instead of in cash. With this ticket the nailer obtains at the truckmaster's shop any goods he may require, charged usually at a much higher rate than they may be obtained for at other shops in the place, and the balance, if any, is returned to the ticket-holder in cash, or, more frequently, held over on the chance of something further being needed at a future day."

He recommends the factory system as a means of remedying these evils, but acknowledges that there would be great difficulties in carrying it out in this trade.

Your reference to the proposed employment of the balance of the Hartley Colliery Fund allotted to South Staffordshire to assisting in the enlargement of the hospital at Wolverhampton has produced some effect, in directing public attention to the matter. It has, however, been stated that the trustees have decided on this application of the fund, but it remains to be seen whether this decision is irrevocable.

Mr. Henry Johnson, of Dudley, has written a letter (which appears in another column or this day's Journal), entering very elaborately into the question of the cause of the late accident at the Nine Locks Pit, Brierley Hill, and of the preservation of those who were so long cut off from supplies of food or of fresh air. On the first point, accepting the evident fact that the water penetrated underneath the dam, he expresses the opinion that blasting the foundation, by shaking and splitting the strata, would tend to weaken it, by rendering it more liable to be softened by the penetration of water. He thinks that the space between the two dams should have been well puddled with retentive clay, that the foundation of the dam should have been got out with the pick, and that the floor of the gate-road, in case of expected great pressure from water, should be inverted with 18-in. brickwork, and cemented, so as to prevent any water leaking from the taps or the dam from soaking into the floor. He differs from the opinion of Mr. Baker, that sealed dams should never be put in a water level, regarding them as essential to working heavily watered collieries. As to the preservation of the men's lives, he makes some remarks which are well worthy of notice. He dismisses as fallacious the idea which was put forth by the men that the tank descending into the water forced air into the mine, considering that by the time the bottom of the tank touched the water the air underneath it would be expelled. He goes on to ascribe the fact that the men found sufficient oxygen in the air in the mine to sustain life, without any fresh supply, to the fact that by the rising of the water after the gate-roads to the shafts were closed the air in the pit would be compressed, and thus be more highly charged than in its normal state with oxygen. This would also tend, by the extra pressure resulting from compression, to prevent the discharge of carburetted hydrogen from the pores of the coal. Again, he thinks the carbonic acid gas in the air which would be exhaled by the miners would be absorbed by the water, and this would go on more effectually owing to the disturbance of the surface, and would be further aided by the current which would be created in the air from the movement occasioned by the higher temperature of the air as compared with the water; and to this current, and the process of the absorption of the carbonic acid gas, he ascribes the greater purity of the air near the surface of the water. These suggestions deserve careful consideration, and would form a suitable topic for the consideration of the Institute of which Mr. Johnson is the secretary. Two points occur to one as requiring enquiry before they can be fully accepted. First, did the miners entombed feel as the water rose the sensations which are enduced by being placed in compressed air? And, secondly, did they experience the symptoms which might have been anticipated from the expansion of the air as the water fell? Again, if the compression of the air prevented the discharge of carburetted hydrogen from the coal, would there not have been a great discharge as the water fell, enlarging the space the air had to fill; seeing, too, that the absorption of the carbonic acid gas, as supposed, had reduced its bulk? These ideas are not to be regarded as opinions expressed, but as points worthy of consideration. The enquiry before the Coroner's jury does little to throw light on the very important points Mr. Johnson's letter raises.

REPORT FROM THE FOREST OF DEAN.

APRIL 21.—Since our last report there appears to be a slight tendency towards improvement in the Coal Trade. Some of the owners have made a reduction in the price of coals, but whether this will create better trade remains to be seen; we hardly expect it, as the hot season will soon draw on. The Iron Trade seems to remain firm, but we had hoped that a considerable rise in price would have taken place ere this.

The Great Western, or Bowson Deep Colliery Company, are making some progress towards putting in the pumps. We understand that part of the engine is fixed, and the pumping-rods are being screwed together in readiness for putting down the shaft. Mr. Barrett is also making progress towards sinking the pit at the Fair Play Iron Mine. It is also reported on good authority that the Messrs. Brain are about to open their Drybrook Iron Mine. The development of the iron mines of the district is, consequently, engrossing a good deal of attention from owners and others. At the numerously attended meeting, held on March 23, at Severn Bank Hotel, Newnham—a report of which appeared in the *Mining Journal* of March 27—the following resolution was unanimously passed :—

"That this meeting, viewing with much concern the circulars recently issued by the Crown authorities as to the short workings, and opening of mines within five years, and considering that they are attempted encroachments on the rights of galees, resolves, with all proper respect, yet firmly, to resist such encroachments, and to do this effectually that a Defence Association be this day formed."

The subscription fee of entrance for members being fixed at one guinea, to defray preliminary expenses, a large sum was contributed in the room, and the committee will recommend the permanent rate of subscription. Printed circulars are now being sent round to parties possessing or interested in mineral property, in order to enlist them as members of the Defence Association. What course to be pursued the committee will recommend does not yet appear, but we hope it will be a wise one. If the affair takes a legal course there is no knowing when the difference will be adjusted.

The Bill introduced this session by the Severn and Wye Railway Company is progressing through the House of Lords, and it is believed that it will pass both Houses.

THE NORTH OF ENGLAND IRON AND COAL TRADES.

MIDDLESBOROUGH, APRIL 22.—The report on 'Change yesterday was that the trade was very flat. No marked improvement has taken place during the past week in any branch, although the demand for rails and plates continues tolerably active; this is in great part owing to the large orders of railway material booked for the Continent and elsewhere. Complaints are made of the restricted character of the merchant bar department. A number of extensive clearances of rails have recently been made from the Tees for the United States. The continued activity of the rail mills is about the most encouraging feature of the trade at the present time, although manufacturers have still to complain of low and unequal rates. It is confidently expected prices will advance before the end of the present season, and in this anticipation rail makers are in some cases holding back. The Iron Shipbuilding Trade on the Northern rivers is brisker than usual, and consignments of plates are going forward to the Clyde. In this, as in most other branches of the trade, however, builders have still to complain of limited demand and unremunerative prices. There is little to report on the Pig-Iron Trade, beyond what we stated last week. Everything is quiet in connection with this branch, and the last prices on 'Change were—No. 1, 49s.; No. 3, 46s.; No. 4, 45s. 6d., net cash at works. Deliveries, both continental and coastwise, continue good, and numerous enquiries have recently been made for forge iron for home consumption. Pig-iron warrants are quoted at 46s. 6d. cash; the stock in store at Middlesborough is 65,138 tons.

A failure, which may fairly be regarded as a public calamity to Cleveland, has this week come to pass at South Stockton. Mr. Bernhard Samuelson, M.P. for Banbury, had some time ago leased the North Yorkshire Iron Works from Messrs. Richardson and Johnston, and having satisfied himself by experiments *on a small scale* that a successful and lucrative steel manufacture from the native Cleveland brands could there be carried on, he expended a large sum of money on the alteration of the old and the erection of new works, adapted to the proposed new industry. Similar works for the development of the first stages of the Siemens' (Martin's) process, on which principle the steel was to be manufactured, were erected at Newport, near Middlesborough, where Mr. Samuelson had previously carried on an extensive pig-iron manufacture. During the past fortnight numerous experiments [illegible] made, with a view to carrying out the new manufacture, but hitherto [illegible] finally failed of the desired end. This result, although believed to be only temporary, must, if not speedily reversed, prove not only disheartening and ruinous to the North Yorkshire Steel and Iron Company, of whom Mr. Samuelson is the principal, but a loss to the district. The great majority of the men engaged at the works have been paid off.

There is still a good deal of stagnation in the Coal Trade. Few collieries in South Durham or Northumberland are in full employ. Shipments of coal from the Tyne and Hartlepool have lately been pretty numerous, but very little coal is now reported from Middlesborough: 14,000 tons of iron were shipped from Middlesborough for the week just closed.

TRADE OF THE TYNE AND WEAR.

GATESHEAD, APRIL 22.—The arrivals in the Tyne have been large this week, 261 vessels having entered, 153 being from abroad, and 108 coasters. The shipping trade is now fairly open, and comparatively brisk; a large business has been done on foreign account. There is a good demand for the Baltic, and for Alexandria, Turkey, &c. For Alexandria the rates have advanced to 20*l*. There is also a good demand for Spain. The demand for steam coal has much improved, and the prospect for the future is now very fair; the colliers may be expected to be employed, at any rate, more than two-thirds time; some of them have, indeed, worked full time during the last few weeks. The Wear trade is considerably duller than the river just noticed; the reason for this may be found in the fact that the coal trade of the Wear—that is, the consting trade—consists mainly of best house coals, and that trade is dull at present, owing to the return of fine weather. The foreign trade from the Wear is scarcely so good; at any rate, the demand is not so brisk, although a considerable business has been done on foreign account, mainly for Cronstadt, the Mediterranean, Alexandria, Venice, &c. The coke trade in South Durham is pretty good, owing to the demand for blast-furnaces and railway purposes—and, indeed, most of the collieries in Durham are doing better; some exceptions, indeed, there are, and some of the gas and house coal collieries are working short time. On the whole, the prospects for the coal, iron, and all staple trades are better than at any former period during the present year. Although general business is not as yet very active, yet a considerable amount has been done, and the rates are more remunerative for most descriptions of produce.

The Iron Shipbuilding Trade continues very prosperous, but generally the engine-building trade is extremely dull; there are, indeed, at most engine works large stocks of engines of all descriptions, and they are a complete drug in the market, they will not, indeed, sell at all; it is evident that the power of engine-production for the present very far surpasses the demand. The Alkali Trade is also somewhat dull, and the chemical trade generally, but this may be expected to improve as the season advances.

The arrivals and sailings from the Hartlepools have been pretty large during the last week, the imports being mainly timber, and the exports coal. The strike at Thornley has reduced the exports, but

this difference has happily been adjusted. Freights to London and the coast are low, London being 6s. 3d., and Rochester 5s. 10½d.

MACHINE VENTILATION OF COLLIERIES.—A large fan, on the Guibal principle, was started at the Byers Green Colliery on Monday, and did good work. It was run up to 60 revolutions per minute, and at this speed produced 68,000 cubic feet of air per minute, with a water-gauge of 3·10 inches. The quantity of air previously got by the furnace was 11,000 cubic feet below the quantity produced by the fan, or 57,000 cubic feet. The fan has not yet been worked up to its maximum power, as it is guaranteed by the maker to work up to 70 revolutions per minute. The makers are Messrs. Black, Hawthorn, and Co., of Gateshead, who continue to finish the fans as rapidly as possible. A large winding-engine is also nearly ready for turning out of the same establishment, intended to be erected at the new winning at Harton Colliery, near South Shields. It will be the largest winding-engine of the kind yet erected in the district.

THE THORNLEY COLLIERY STRIKE.—The unfortunate dispute between the men and the manager at Thornley has been amicably adjusted. A meeting was held between the parties at the end of last week, and, as was remarked in this letter, the dispute was partly owing to the course of action decided upon as to the "laid out." Certain concessions were made, and some progress made at this meeting towards a settlement; indeed, all the points in dispute as to prices, &c., were arranged, with the exception of the "laid out." At a meeting held by the men on Saturday a ballot was taken, when it was found that a large majority of the men were in favour of going in on the terms offered on Friday. A deputation was then sent to Mr. Spencer, and an agreement was come to on all the points disputed, when, as may be supposed, the announcement that the strike was at an end caused great joy in Thornley and the neighbourhood, as the Thornley and Ludworth Collieries are the main support of a large and flourishing village.

REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 22.—During the week there has been but little alteration in the Iron Trade of this district, which may be said to be quieter than for several weeks past. Rails, however, continue firm, and the prospects of this important branch of the trade are, if anything, more encouraging than they have been during the year. Advices from Melbourne are favourable as to future requirements, large orders for rails for the Victorian Railway being about to be given out, and it is expected that business transactions with Australia will be largely extended. The spring orders from the Continent are now expected, and as there is every probability of the railway system being extended in several of the European countries, hopes are entertained of large quantities of rails, and other *materiel*, being required for the carrying out of the works. There are several large vessels and steamers now loading at the local ports with rails for the United States and Russian markets, and during the summer months something like activity will be witnessed in the shipment of rails at the various docks. Heavy clearances are also about to be made for Peru, where the opening up of the railway system is in its infancy, and as extensive works are about to be carried out in that country, a good business is expected to be transacted with the South-West Coast of America. The large amount of business now being transacted with the United States is not expected to be interfered with by the rejection of the Alabama treaty by the American Senate, it being presumed that the matter will now be allowed to stand over for the present, and that no further steps will be taken to come to a settlement of those claims. Enquiries from India are more numerous than they have been of late, and an increase in the demand is looked forward to in the early part of the present quarter. The heavy clearances of rails at the local ports for the foreign markets have so reduced stocks that the slightest further improvement in the demand will tend to an advance in prices, and makers evince no anxiety to enter into heavy fresh engagements at present rates. There is a fair amount of business doing in bars, chiefly for the continental markets. Pigs of the best brands command an improved sale, at prices having an upward tendency. Tin-Plate makers have sufficient orders on their books to keep their mills regularly going, and the recent advancement in rates is maintained.

Steam Coal proprietors are not so well placed for orders as could be desired, and the arrival of vessels at the places of shipment is inadequate to meet the demand of merchants and shippers. The late decision of the Admiralty, rescinding the order for the exclusive use of South Wales steam coal in the Navy, will to some slight extent affect the trade of this district, but this will probably be of only short duration, the superiority of Welsh steam coal over that of Durham and Northumberland having been clearly proved by naval officers of considerable experience and ability. The demand from the mail packet stations, and several of the foreign markets, is scarcely up to the average, and the clearances now being made are not so large as they should be at this period of the year. The House Coal trade is not so brisk as it was a fortnight ago, and there is a falling off in the shipments coastwise, as well as in the local consumption.

A new blast-furnace is about to be blown-in at Blaenavon, being the ninth the company will have in blast.

The recent order of the Admiralty, rescinding the arrangement by which South Wales coal proprietors had the monopoly of the Navy orders, has called forth the energetic [illegible] of Mr. Fothergill, one of the members for Merthyr. It is said that Mr. Vivian, one of the members for Glamorganshire, has entered with him into the subject, and already began active proceedings. They have had an interview with the First Lord of the Admiralty, and a motion is on the books of the House, which will be spoken to either by Mr. Fothergill or by Mr. Vivian, and the truth of the statement as to the rescinding the order, and on what grounds, ascertained.

The petition of a creditor for the sum of 250*l.* has been heard in the Vice-Chancellor's Court to wind-up the Aberdare Steam Colliery Company. It appeared that an interim liquidator had been appointed, who had taken possession while the colliery was being worked. Mr. Haddan, for the landlord, asked that out of the first moneys in hand the rent due, amounting to 800*l.*, might be paid. Mr. Everett, for the company, opposed the order, on the ground that the company was doing well, and would have paid every debt but for the petition. Mr. Rodwell, for the mortgagees of the colliery, complained of their possession being disturbed. The Vice-Chancellor said the best order would be to order the company to be wound-up compulsorily, giving the powers of the 96th section of the Act, the order not to be drawn up for ten days.

Mr. W. H. Brewer, Coroner for the Western District of Monmouthshire, terminated an enquiry at Tredegar, on Saturday, touching the death of John Nines, who died from the effects of an accident in the Tyrtrist Pit, on the 10th inst. A son of the deceased said his father was knocking away a butt, when a fall took place, and his father was injured in his side, and the next day he died. In reply to the Coroner, the boy said he was two months past 12 years, and had been working in the pit with his father about 12 months. He had been to school, but had forgotten the way to read and write. A registry of birth was handed to Mr Brough, the Government Inspector of Mines for the district, and he said he would furnish Mr. Green, the agent, with a copy of the Act relating to the employment of colliers, and he hoped some few dozen copies would be procured and placed in the hands of the viewers of the pits. After hearing the evidence of William Thomas, overman, and Mr. Brough, the jury returned a verdict of "Accidental Death."

Messrs. Vivian and Sons, of Swansea, it is said, are likely to convert one of their copper works into tin-plate works. The proposed alteration is said to be occasioned by the depressed state of the copper trade.

Reference was made last week to the suspension of Messrs. Hallam and Madge, tin-plate manufacturers, Morriston, Swansea. A meeting of the creditors took place on Wednesday at Swansea, and, from a statement prepared by the accountants, it appeared that the total liabilities were 103,000*l.*, of which 55,000*l.* is due to the Glamorganshire Banking Company, who are, however, to a great extent secured. Mr. Hallam paid 8000*l.* on entering into the partnership, and during the whole term of his management he has not drawn out more than 600*l.* to 700*l.* The meeting was adjourned for a fortnight, the works in the meantime to be carried on under the supervision of Mr. Strick, Mr. Townshend Wood, and Mr. Marten, of the Glamorganshire Bank.

In the *Mining Journal* of the 10th inst. the case of "Pillar *v.* the Llynvi Coal and Iron Company" was detailed, the company having been, by a special jury at the Bristol Assizes, nominally convicted of an infraction of the Truck Act. In the Court of Common Pleas, on Monday, Mr. Prideaux moved for a rule *nisi* in pursuance of leave reserved. It was contended that the plaintiff was not an artificer within the meaning of the Truck Act, but a tradesman and contractor. Rule *nisi* was granted.

The arrivals at Swansea include—The Elizabeth Tatham, from Carloforte, with 324 tons of calamine ore, for H. Bath and Son; Petra, from Bilbao, with 180 tons of iron ore, for W. H. Thomas; Marie Felix, from Santander, with 160 tons of iron ore, to order; Edward Alfred, from Santander, with 170 tons of iron ore, to order; Mary Sprout, from Aveiro, with 160 tons of copper ore, for Richardson and Co.; Huasco, from Caldera, with 312 tons of silver ore and 160 tons of regulus, for H. Bath and Son, and 147 tons of copper for Elford, Williams, and Co.; Atoso, from Carrizal, with 700 tons of copper regulus, for H. Bath and Sons; Lieutenant Maury, from Carrizal, with 408 tons of regulus and 100 tons of bar lead, to order; Augusta, from Bilbao, with 178 tons of iron ore, for W. H. Thomas; Almo, from Bilbao, with 375 tons of iron ore, for W. H. Thomas; Madeline, from Chanaral, &c., with 105 tons of copper ore and 405 tons of ore in bulk, for Richardson and Co.; Fass Fern, from Santander, with 343 tons of iron ore, for Richards, Power, and Co.; Anne Sarah, from Bilboa, with 248 tons of iron ore, for W. H. Thomas.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

APRIL 22.—There is only a moderate business being done at the iron works in Derbyshire, although most of the furnaces continue in blast. At Wingerworth, the alterations which have been going on for several months past are fast tending towards completion, and the whole place appears to have been nearly remodelled. New boilers of a very peculiar construction have been laid down, with engines, &c. The company, in carrying out their alterations, appear to have spared no expense in obtaining every advantage which modern science has produced for economising labour and fuel. With that object in view, by the adoption of a method which, to some considerable extent, has been patented, the gas from the top of the furnaces is conveyed down a pipe, for the purpose of heating the boilers. With the view of giving a detailed account of the invention, we propose paying another visit to the works when the furnaces are in blast, as we have every reason to believe that the company will be happy in giving every information on the subject, which cannot but be of interest to makers of iron in all parts of the country. The Coal Trade continues quiet, not many of the collieries working full time. From Clay Cross, the tonnage going to London is still considerable for the season; and the Midland Railway still maintains the position it has assumed during the last two or three months, and is fast approaching the tonnage carried by the London and North-Western.

In the South Yorkshire district the iron establishments are now kept fairly going, the works at Elsecar and Milton being particularly active. The high reputation which the rails of the firm enjoy has been evinced by the large orders in hand, and the necessity of putting down a new mill. Plates and angle-iron are also in large request, and the Messrs. Dawes are said to have a large Government order in hand, and which will last for some months. In addition to the tonnage of iron being sent by railway, four boat loads are being forwarded weekly from Hemingfield to Goole for shipment to London. The coal trade has not materially improved during the week. The tonnage going to London has increased, and the Great Northern Company continue to do a much better business than it did a couple of months ago. A good deal of its carriage of coal, however, is from the North of England, although there is no question that the South Yorkshire coal field is its legitimate district, seeing that there are several large collieries distant not more than eight or nine miles from Doncaster. The rates, however, are such as not to give the coalmasters a chance of competing with those in Derbyshire; so that the charges from the North of England must be much lower in comparison. With regard to the reduction of the rate, nothing has transpired of late. There is now a better prospect for the getting of steam coal, and several vessels are loading at Grimsby and Hull, with the view of finding the Baltic open, latest advices being to the effect that the ice is breaking up. In the neighbourhood of Normanton the Glass Houghton Colliery Company are driving their preparatory work in the seam. They have recently sunk to, and are prosecuting the sinking of, the other shaft, which will be their principal drawing one, and which is to be 12 ft. in diameter when completed. At the St. John's Colliery, which is being sunk on the estate of Mr. J. Locke, operations are progressing rather favourably, although on Thursday an immense blower of gas was met with, which forced the sinkers to come to bank. Mr. Hodgson, the viewer, at once ordered a new Schiele's fan to be set in operation, in addition to the one then at work. Still the gas gave off in such large volumes that it was found advisable not to allow the men to go down until Monday. The engine has been erected for the drawing of the coal, and there is a very clever and simple appliance, invented by Messrs. Horne and Broughton, the makers, for reversing the gear, which is made by a steam cylinder close to the engineman.

THE DISPUTES AT THE YORKSHIRE COLLIERIES.—During the week the comparative quietness which has been maintained in those districts where the Unionists are out was seriously interrupted at Denaby Main. Two of the men at work whilst returning home were attacked by a number of Unionists, and one of them was severely injured. The perpetrators of the outrage have only been members of the Union some four or five weeks, previous to which they had been working as "black sheep." On visiting the colliery a day or two since we found that work was going on as usual; and Mr. Pope, the managing director, assured us that he had got as many men as he required, and that his determination was as strong as ever not to employ Union men, or any of the late workmen, on any conditions whatever. At Mr. Huntsman's collieries there is no change whatever. The men, as usual, hold their meetings, and are told that all they have to do is to remain quiet, live on the Union pay, and they are sure to win. The winning on that side, however, appears as far distant as ever. The same may be said with regard to the collieries of Messrs. Newton, Chambers, and Co., at Chapeltown and Thorncliffe, where upwards of 800 men are out, and not likely to go in on their own terms. The men in work are paying a levy of 2s. 6d. per week, a by no means pleasant task, many of them not working more than three days a week. The executive of the association appear to appreciate the situation in which they are placed, and have issued an address soliciting subscriptions from the various trades throughout the kingdom.

RAILWAY ACCOMMODATION.—It is not often we hear of a railway company giving up its traffic in an important district; but such appears to be the case in one instance, at least, and the inhabitants of Castleford, near Wakefield, feel aggrieved, and are appling for redress. From their complaint, it is asserted that the new extension of the North-Eastern Railway Company (York to Leeds), and which was opened on the 1st inst., has entirely cut off the town from the metropolis of the West Riding, stopping the railway communication which has hitherto existed for something like 30 years, by way of Methley Junction. This has been felt as a serious matter, and has led to the principal manufacturers and inhabitants convening a meeting, for the purpose of considering the desirability of memorialising the Midland Railway Company to extend a branch line into Castleford, and, considering the importance of the town, in the vicinity of which collieries are being sunk, and which is itself the centre of a large glass bottle and potteryware trade, would, there is very little doubt, become an important feeder to the main line, considering the large goods traffic which is carried by an illegitimate source to the South. The line should commence at a point about 400 yards from the Altofts Junction, and be continued on the south side of the River Calder, and so include the principal manufactories, and open out a traffic for the Barnsley branch, seeing that the Silkstone coal is a great favourite with the glasshouses. The town could also, there is very little doubt, be made an important transhipment place, as vessels of considerable burthen could be navigated on the Aire and Calder navigation.

REPORT FROM SCOTLAND.

APRIL 21.—The holders of Pig-Iron here for speculative purposes seem quite disconcerted, and at a loss how to hold their "cue" in playing for a rise in warrants. The other day they "called up" some thousands of tons, and were astonished to see prices fall by the operation; and the market has continued flat for the past eight days, under a disposition of English holders to rather sell out, through their brokers. Local consumers are melting increased quantities of pigs for cast and manufactured iron, and our shipments are increasing on the whole, although for this week they only amounted to 12,920 tons, against 15,330 tons in the corresponding week of last year. From Middlesborough we imported to date last year 31,679 tons of pigs, while this year we have only imported 19,805 tons, which makes a decrease of 11,874 tons; and, on the other hand, we have shipped, foreign and coastwise, till date, 170,432 tons, against only 151,161 tons in the previous year, which is an increase of 19,271 tons; but then it is estimated that the excess in the make is exceeded by that of last year by 45,000 tons in the same period, so that no argument for an advance in price can be derived from the increased shipments. On 'Change yesterday the closing quotations were—sellers, 52s. 6d. prompt, and 52s. 8d. a month; buyers, 52s. 7½d. a month, and 52s. 6d. 10 days, when a pretty large business was done. To-day the market was further depressed, and warrants were pressed for sale from 52s. 6d. to 52s. 3d. cash, and 52s. 9d. to 52s. 6d. a month; closing, sellers, 1½d. a ton higher. No. 1, g.m.b., 52s. 9d.; No. 3, 50s.; Coltness (oversold), 61s.; Gartsherrie, 59s. 3d.; Glengarnock, 55s.; Langloan, 54s. The enquiry for finished iron has declined somewhat, and present orders are being wrought up too speedily for some of the makers, who are beginning to look wistfully into the future. All the works are on full time, but if other specifications are not forthcoming, two or three of them will put some of the merchant mills on short time. Ship iron is being rapidly worked up, some of the large builders working by double shifts, so that makers of plates and angle-iron are doing a large business. Plates, ship, are quoted 8*l.* 5s. to 9*l.*; boiler ditto, 9*l.* to 10*l.*; extra ditto, 14*l.*; nail-rods, 6*l.* 17s. 6d. to 7*l.*; pipes, 4*l.* 15s. to 6*l.*, according to size.

Coals keep depressed, and with the present mild and genial weather domestic consumption is reduced to a minimum. With nominal quotations, shipments have only reached a total of 17,280 tons for the week, against 32,595 tons in the same week of 1868. Colliers' wages are now pretty nearly equalised over all the Scotch mining districts, so that the masters in the Thick coal districts of Lanarkshire are enabled to compete with those of East and Mid-Lothian, Fife, and Clackmannan. But there is not much consolation in this state of things; we would have preferred a trade so buoyant as would have enabled the coalmasters in each of these districts to have had their own section of customers to themselves. Another batch of miners leave this week for the States, principally those who have friends there before them. The local organ of the miners, in noticing this migration, remarks—

"The coal and iron lords of Scotland may yet bitterly regret the driving away of many of Scotia's sons of toil by starvation wages. They may yet find it would have been better to have lived and let live."

It is a pity that men should leave their native shores with sentiments like these injected into them by those who know that the "coal and iron lords" have made no small sacrifices of capital to keep on their pits, in the face of continued weekly losses.

Numerically, the shipbuilding yards on the Clyde are busy scenes, the stupendous hulls disgorging their myrmidons at meal hours like locusts. During the week there were launched—1. An iron sailing ship, of 1150 tons register, named the Melpomene, for Fernie and Son's (Liverpool) Melbourne trade.—2. An iron clipper, of 756 tons, called the Hirondalle, for Mors le Blanch and Co., Liverpool, for the East India and China trade.—3. A clipper, of 799 tons, called the Wylo, for Killick, Marten, and Co., London, for the China trade.—4. An iron sailing ship, named the Friedeburg, of 750 tons, for R. M. Sloman, Hamburg.—5. A splendid screw steamer, of 2690 tons, called the Silesia, for the Hamburg American Company—and, 6. A paddle steamer, of 300 tons, named the Snowdon, for coasting traffic between Liverpool and Rhyl.

At the Sutherlandshire diggings the search for gold is being pursued with varying success. The Duke of Sutherland is expected North this week, when representations will be made to have the heavy charge for licenses so modified as to enable the unemployed poor to purchase claims. At Kildonan, in some of the claims the quantity of debris gone through would entitle a navvy on any railway to 5s. a day for wages, and it is doubtful if the diggers average this sum. Occasionally 8s. to 12s. a day is realised, but this is rare, and by no means a general rule. It is reported that a small nugget, weighing 2 ozs., was found last week, which stimulated the industry of the diggers, of which there are fully 200 on the licensed ground.

MONKLAND IRON AND STEEL COMPANY.

SIR,—Your Scotch correspondent was not correctly informed, when he wrote his remarks, in last week's Journal, in reference to the non-extension of the works of the Monkland Iron and Steel Company. The fact is that about 100 additional hands have been engaged since the 1st inst. Both sections of the works are now in operation, and in perfect working order. There is no truth in a portion of the "plant being used up," nor is there any "transference" in the case, except a transference of 40 puddlers, now on their way from Staffordshire.

Airdrie, April 20. AN EMPLOYEE.

FOREIGN MINING AND METALLURGY.

The Belgian coal trade is rather quiet; at the same time, some enquiry continues to be experienced on metallurgical account. The state of the Belgian iron trade continues good; there is no new fact of importance to mention, but prices present, as hitherto, considerable firmness. We believe that the administration of the Belgian State Railways has just ordered some iron sleepers, which will be applied experimentally on a section of the national network. Several important contracts for rails are stated to be in course of negociation in Belgium, but a difficulty presents itself which delays the conclusion of contracts, which, it is stated, might be otherwise obtained. This difficulty consists in the companies requiring rails stipulating for a commencement of deliveries during the current year, while the orders in course of execution render it almost, if not quite, impossible for the rolling-mills to fulfil this condition.

A report from Essen (Prussia) states that the tone of the metallurgical markets of that district continues to be reassuring. The quotations for pig are still firm. The sale of pig shows some animation; nevertheless, the importation is so considerable that the Prussian blast-furnaces do not obtain higher prices. Grey pig, No. 1, has made 3*l.* 10s. 10d. to 3*l.* 13s. per ton; No. 2 ditto, 3*l.* 5s. 8d. to 3*l.* 9s.; and pig for puddling, 3*l.* 2s. 6d. to 3*l.* 4s. per ton. It is understood that several blast-furnaces are in course of construction. The market for iron in bars has not experienced any material change, but the advance in prices which was anticipated in January has not yet been realised. The orders which arrive for the present at the works relate to commissions given out last year. The manufacture of machinery in the Zollverein has considerably increased during the last ten or twelve years. While the industrial establishments of the Zollverein 20 years since obtained almost all their machinery from England or Belgium, the Zollverein is now not only in a position to manufacture so as to meet the greater part of its wants, but also to work on foreign account. In 1866, the Zollverein imported 11,301 tons of machinery, and 11,346 tons in 1867. In 1866, the Zollverein exported 7208 tons of machinery, and 10,456 tons in 1867. The imports of locomotives, tenders, and steam-boilers into the Zollverein in 1867 amounted to 2629 tons, being 1349 tons, or 51 per cent., less than in 1866. The imports of this class of machinery from Austria last year were 695 tons; from France, 173 tons; from Hamburg, 115 tons; *viâ* the Baltic, 132 tons; and from the Low Countries, 72 tons. The exports of locomotives, tenders, and steam-boilers from the Zollverein in 1867 amounted to 2132 tons, 705 tons, or 49 per cent., more than in 1866. The exports to the Low Countries amounted in 1867 to 540 tons; to Russia, 435 tons; to France, 268 tons; to Belgium, 203 tons; and to Austria, 52 tons. The manufacture of steam-boilers, which is principally carried on at Aix-la-Chapelle, Essen, and Dortmund, has been rapidly developed. Annexed are some statistics illustrating the amount of steam-engine force in operation in Prussia (probably these statistics are now somewhat out of date, nevertheless we give them for what they are worth):—Mining industry, 17,421-horse power; siderurgical industry, 25,762-horse power; textile industry, 18,500-horse power; chemical industry, 1034-horse power; printing industry, 2790-horse power; paper manufacturing industry, 1462-horse power; other branches of industry, 7512-horse power: total, 75,481-horse power.

The state of the French iron trade continues satisfactory. The St. Dizier market is now well maintained by the orders received from the principal centres of consumption, and all the works of the Haute-Marne are now abundantly provided with orders in consequence. Charcoal-made pig is quoted at 4*l.* 1s. 8d. to 4*l.* 3s. 4d. Coke-made pig is well supported, in consequence of the active demand prevailing for coke-made iron, which is dealt in currently at 7*l.* 16s. to 8*l.* per ton, taken at the works. With reference to coke-made pig, we learn that an important contract has been concluded with a forgemaster of the Meurthe and the Moselle at 2*l.* 16s. 10d. per ton, free at St. Dizier; the deliveries are to be effected by the end of the year. Rolled puddled iron from charcoal-made pig is strongly supported at 8*l.* 18s. to 9*l.* per ton. Hammered iron gives rise to a more sustained current of affairs, and some works even make, it appears, an advance of 4s. per ton upon axles. The works of the Nord are not in a less satisfactory position than those of the Haute-Marne; some forges, in order to carry out the orders they have on hand, are obliged to construct some new puddling furnaces. T-irons have been a good deal sought after; there have been rumours of an intention to re-establish the old classification of this description of iron. Refining pig maintains a well established price of 2*l.* 16s. per ton in warehouse at the best furnaces. Considerable transactions have taken place in coke-made iron, and the price paid has been 8*l.* 4s. and even 8*l.* 8s. per ton, in warehouse at Paris. Upon the whole, there has been much firmness in quotations, and an abundance of work in the Loire, in the Moselle, in Champagne, and in the North and South of France; nevertheless, the price of fine iron has remained almost stationary, whilst coke-made iron has risen 16s. per ton. This state of things is attributed to the competition of Swedish iron, which it is alleged is fraudulently imported into France by means of the warrant system.

The price of coal has not experienced much variation in the Ruhr district for some time past, although the demand was very heavy at the end of the autumn, and although all the works have been more than ever occupied. Several of the Ruhr colliery owners have decided to establish works for the separation and washing of coal. The production of the Ruhr basin in 1867 was 10,714,184 tons; in 1868 it rose to 11,428,028 tons, showing an increase of 6·70 per cent. last year. Although this was a respectable advance, it was, nevertheless, a much smaller one than has been noted in many previous years. The diminished progress of last year is attributed to the stagnation of industry generally, while drought rendered navigation very difficult on the Rhine last year. The development which is being acquired by Prussian railways, and especially by the lines which are being opened up towards the northern ports, will, it is expected, when coupled with a reduction of tariffs, permit Prussian coal to be delivered on new markets; already some of the mines in the east of the Ruhr basin are stated to be delivering coal to America. Some twelve new centres of working have been commenced, and are expected to achieve in the aggregate a large production. Colliery shares are being more sought after by the investing public of Prussia, and new companies are being formed for purchasing and working the fine rich concessions in the north of the Ruhr basin—concessions taken 15 or 20 years since, but which hitherto have been permitted for the most part to remain unproductive. A French company, which commenced operations scarcely four years since, has just finished a second pit; and, encouraged by the brilliant results which it has attained, it has acquired several new concessions. A second company, also French, has just secured an excellent concession to the north of Essen. Some Englishmen have not been less fortunate in the environs of Dortmund.

The French copper markets present no great change. At Havre, Chilian and Peruvian in bars has been dealt in at 73*l.* per ton, delivered at the end of May, Paris conditions; refined ditto in ingots, 78*l.*; pure Peruvian minerals, 72*l.* to 74*l.*; United States (Baltimore), 78*l.* to 80*l.*; ditto (Lake Superior), 88*l.* to 90*l.* per ton. At Paris quotations have not changed. At Marseilles, Toka has made 72*l.*; Spanish, 70*l.*; refined Chilian and Peruvian, for consumption, 78*l.* per ton. The German markets have remained firm, but prices are stationary. The Dutch markets have maintained former rates, but there has been no great activity in transactions. There has been some feebleness in tin on the French markets, and a comparative absence of operations. Correspondence from Rotterdam also reports a rather downward

tendency in the article on that centre. Banca has been offered at 80½ fls.; Billiton, under sail and on the spot, would obtain about 79½ fls. Lead has been firm at Havre and Paris; at Paris, Spanish lead has made 19l. to 19l. 8s. per ton, and lead from other sources 19l. 6s. to 19l. 8s. per ton. At Hamburg lead has shown a good tendency. The zinc markets have been generally quiet, and at some centres there has even been some weakness.

FOREIGN MINES.

PESTARENA UNITED.—T. Roberts, April 16: The lode in the 8 fm. level, south from Aquavite, has improved in the past week; the end of this level is getting near the line of the shoot of ore that we are now working on at the 23 and 33. A communication from the intermediate level to the backs above the 33 fm. level has been made, and we have resumed to stope the back of the 23 south; this stope yields 5 tons of ore per fathom, worth 1 oz. of gold per ton. No change in any other points to notice throughout this, Cani, and Val Toppa Mines since our last report. The snow continues to gradually disappear, and the water in the Anza to increase.

ALAMILLOS.—April 14: In the 4th level, west from San Rafael shaft, the lode is large, and of a good appearance, yielding ¾ ton of ore per fathom. The 4th level, east of La Magdalena shaft, is worth ½ ton per fm.; the lode is about 2 ft. wide, composed of quartz, and spotted with lead. The lode in the 5th level, east of this shaft, is large and vughy, and difficult to drive. The 5th level, west of La Magdalena shaft, produces 1½ ton of ore per fathom; this level is opening up a good piece of tribute ground. The 5th level, east of Taylor's engine-shaft, is very near the main lode. The 6th level, east of the above shaft, is hard for driving, and the lode is poor. The lode in the 5th level, west of Taylor's shaft, has declined in value during the past week. Progress is slow in the 6th level, west of Taylor's, the ground being hard and wet. The 4th level, west of San Andriano shaft, is holed to Juan's winze; lode unproductive. No change has taken place in the appearance of the 3d level, west of San Yago. The 2d level, east of Cox's shaft, is worth ¾ ton per fm.; the lode is very regular, and the ground easy for driving. The 2d level, west of Cox's shaft, yields ½ ton of ore per fathom; the lode has fallen off a little in size, but still maintains a good appearance. The lode in the 2d level, east of Judd's shaft, is unproductive, but very regular, composed of quartz and granite. The lode in the 2d level, west of Henty's shaft, is still in a very unsettled state. —Shafts and Winzes: In La Magdalena shaft, sinking below the 5th level, the granite is hard for sinking through. San Andriano shaft, below the 4th level, yields 1 ton of ore per fathom; the ground is easy for sinking, and the lode looks well. Pablo's winze, below the 3d level, is being sunk in a lode of a very promising character, yielding at present 1 ton of ore per fathom. Guirado's winze, sinking below the 3d level, has reached the depth required. The lode in Gandia's winze, below the 2d level, is small and poor at present.

FORTUNA.—April 14: Canada Incosa Mine: The 110, driving west of O'Shea's shaft, yields 1½ ton of ore per fathom; an improvement has taken place in this end, which is now opening good tribute ground. The lode in the 100, west of Henty's shaft, is small, and the ground hard for driving. In the 90, west of Judd's shaft, the lode, which is not quite so productive as it has been, yields 1¼ ton per fathom. The 90, east of Addis' shaft, contains stones of lead, but not sufficient to attach a value to. The ground in the 80, south of Henty's shaft, is rather hard for driving. The lode in the 50, east of San Pedro shaft, is large, strong, and very promising, and produces 1½ ton of ore per fm. The 70, east of Carro's shaft, yields ½ ton of ore per fathom; the lode is small, and the ground hard for driving. The 80, east of Lownde's shaft, is worth 1½ ton of ore per fathom; the lode is of a kindly appearance, and we expect to open a good length of ore ground in this direction. In the 80, west of Lownde's shaft, the lode is strong, and yields ½ ton of ore per fm.—Shafts and Winzes: At O'Shea's shaft, sinking below the 110, the ground is hard, and the men are getting on slowly. The ground is also very hard at Henty's shaft, and progress is not so rapid as could be desired. Prueba's winze, below the 100, is worth 1 ton per fathom; this is going down in a kindly lode, and is in advance of the 110, reported above. Primera's winze, sinking below the 80, yields 1½ ton of ore per fathom. We are unable to continue the sinking of this in consequence of the quantity of water.—Los Salidos Mine: In the 100, west of Morris's engine-shaft, the ground is getting much harder for driving than formerly. No alteration worthy of notice has taken place in the 90, west of Buenos Amigos shaft. The 75, west of this shaft, is worth 1½ ton per fm.; the lode is of a very kindly appearance, consisting of quartz, carbonate of lime, and lead. The 100, east of San Gabriel shaft, yields ½ ton per fm. In this level the lode fluctuates considerably, and is small at present. The 90, east of Cox's shaft, is worth 3 tons of ore per fm.; this is still opening a valuable run of ore ground. The 75, east of San Pablo's shaft, produces 1¾ ton of ore per fathom; this is a strong and kindly lode, and is now opening very good tribute ground.—Shafts and Winzes: Buenos Amigos engine-shaft, sinking below the 90 fm. level, is worth 1 ton of ore per fathom: we have resumed the sinking of this shaft, and shall complete it to the 100 fathom level speedily. San Carlo's shaft, below the 65, yields ¾ ton per fathom. A part of the lode from the south side has fallen in with the shaft. Murillo's winze, sinking below the 75, is worth 2 tons of ore per fathom; the lode is still large and kindly, but not near so solid as it was. The lode in Colon's winze, below the 90, is very small at present, yielding ½ ton per fathom. San Pablos shaft, below the 75, is worth 2½ tons of ore per fathom: we have commenced the sinking of this shaft, in which the lode is of a promising character.

LINARES.—April 14: West of Engine-Shaft: In the 110, west of St. Tomas engine-shaft, the lode is large and strong, yielding ½ ton of ore per fathom. The 85, west of Warne's, has improved a little during the past week, and is now worth 1 ton of ore per fathom. The 45, east of San Francisco shaft, is also worth 1 ton of ore per fathom; the lode is getting small, but we expect it will improve shortly. The 31, east of the last-mentioned shaft, is worth 2 tons of ore per fathom; this end continues to open a good length of productive ground. In the 25, east of same shaft, the ground is easy for driving through, and the lode is compact and solid, yielding 1 ton of ore per fathom.—East of Engine-Shaft: The 95, east of Taylor's cross-cut, is unproductive; and the 95, east of Taylor's shaft, is also valueless, though the lode is large and strong.—Shafts and Winzes: San Francisco shaft will be completed to the 45 by the end of this month. No. 165 winze, below the 75, contains ore in small quantities. No. 166 winze, sinking below the 31, is worth 1 ton per fathom; the lode is very firm and compact, containing quartz and lead ore. No. 167 winze, below the 45, is going down in a very kindly lode, worth 2 tons of ore per fathom.—Quinientos Mine: The 45, west of Taylor's engine-shaft, is worth 2 tons of ore per fathom; the lode is large and strong, consisting of carbonate of lime, quartz, and lead ore. The lode in the 45, east of Taylor's engine-shaft, is very small, and hard for driving. The 32, east of this shaft, yields ½ ton per fathom. Old works reach half-way down the end; there are good stones of ore in the bottom of the end. The 32, west of Taylor's shaft, yields 3 tons of good ore per fathom; this is opening out a very fine piece of ground. The 32, east of Cox's shaft, is worth 1½ ton per fathom; in this end, driving to meet the last named, the lode is strong and productive. The 32, west of Cox's, is also worth 1½ ton per fm.; the lode is improving in this end, and is moderately easy for driving.—Shafts: San Carlos shaft, sinking below the 20, is worth 2½ tons per fathom; this is going down in an excellent lode. The men broke the door-piece and windbore last week, which retarded the sinking somewhat, but they are now going on very regularly again.

[For remainder of Foreign Mines, see to-day's Supplement.]

THE CHANNEL BRIDGE.—The project of a bridge across the Straits of Dover makes further progress every day. The first model has been completely finished for some days, and has succeeded perfectly. This rough model consists of a single arch, reduced to the scale of one-hundredth, from one of those of the large bridge—the scale is exact. It presents absolute rigidity in every sense—that is to say, there is not any movement either of oscillation or trepidation, consequently there is no perceptible vibration to disaggregate the metal; no more elasticity is felt under the foot than in walking upon an ordinary pavement, and it can sustain, without any deflection, a weight greater than 20 trains, proportioned to the same scale, meeting in the middle of the span. The weight of 10 men produces only an inappreciable deflection of a few millimetres; and when the load is removed there is found to be no permanent set. Lastly, it has been found unnecessary to employ several of the pieces which had been prepared to ensure rigidity. This result simplifies the question, and will lead to considerable economy in the expenditure. A second model, twice the size of the first, is very nearly finished, and if, as is generally supposed, the result is as favourable, the most sceptical can no longer be in doubt. But under any circumstances, the problem is solved for all sizes of bridges and viaducts consisting of a single span—that is, thrown from one side to the other without piles in the centre of the stream. Already several orders have been received for bridges and foot-bridges, amongst others a large bridge, with roadway and rails, 1 kilometre in length, for connecting St. Malo with St. Servan à Dinard; a foot bridge of 100 metres, above the lock at Calais; a bridge across the Regent's Canal, London; and several others in various departments of France.—Paris *Journal Officiel*.

THE USE OF NORTH COUNTRY COAL IN THE NAVY.—In the House of Commons, on Thursday, Mr. H. Vivian asked the First Lord of the Admiralty whether it was a fact that a decision had recently been come to by the Admiralty with reference to the use of North Country coal on board Her Majesty's ships; and, if so, whether he had any objection to state what that decision was?—Mr. Childers said, in 1867, in consequence of a report from the West Coast of Africa station, in which the capture of a siaver was attributed to the use of smokeless coal, an order was given directing the disuse of bituminous coal in Her Majesty's ships. That order had since been carefully considered, and to a certain extent modified; and directions had been given, under which a certain admixture of coal, consisting of two-thirds Welsh and one-third North Country coal, will be used in Her Majesty's ships, except on the China and West Coast of Africa stations. Orders had also been given for the necessary changes in the furnaces.

SOCIETY OF ENGINEERS.—At the meeting of the society, on Monday (Mr. F. W. Bryant, President, in the chair), a discussion took place on Mr. F. W. Hartley's paper "On the Methods Employed in the Determination of the Commercial Value and Purity of Coal Gas."

THE IRON AND STEEL INSTITUTE.—The new institute, which was successfully started a few months ago, and which already numbers, we believe, over 150 members, with a long roll waiting election, has recently been very little to the front. It appears, however, that no further movement is likely to take place until the President—the Duke of Devonshire—has delivered the inaugural address. The meeting for this purpose is expected to be held in London during the month of June. Meanwhile those who are interested in the success of the institute will do well to exercise their influence in extending the list of members. As to papers, we are informed that promises have been received from Mr. I. Lowthian Bell, Mr. Josiah Smith, Mr. Edward Williams, Mr. Menelaus, and other influential gentlemen.—*Iron and Coal Trades Review.*

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the BOTELET MINING COMPANY.—The Assistant-Registrar of this Court has appointed Monday, the 3d day of May next, at Eleven o'clock in the forenoon, at the Registrar's Office, in Truro, to SETTLE the LIST OF CONTRIBUTORIES of the ABOVE-NAMED COMPANY, now made out and deposited at the said office. E. SMIRKE, Vice-Warden.

FREDERICK MARSHALL, Assistant-Registrar of the said Court.

Dated the 22d day of April, 1869.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

IN the MATTER of the COMPANIES ACT, 1862, and of the EAST BROOKWOOD MINING COMPANY.—The Assistant-Registrar of this Court has appointed Thursday, the 6th day of May next, at Eleven o'clock in the forenoon, at his office at Truro, to SETTLE THE LIST OF CONTRIBUTORIES of the ABOVE-NAMED COMPANY, now made out and deposited at the said office. E. SMIRKE, Vice-Warden.

FREDERICK MARSHALL, Assistant-Registrar of the said Court.

Dated this 21st day of April, 1869.

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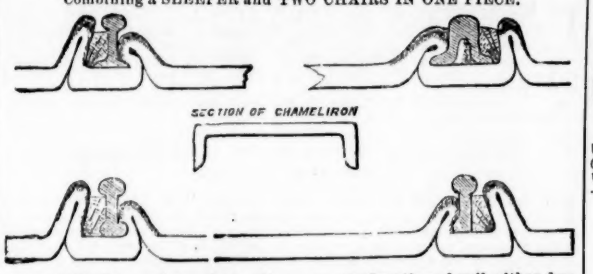

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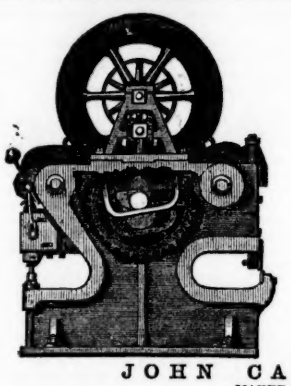

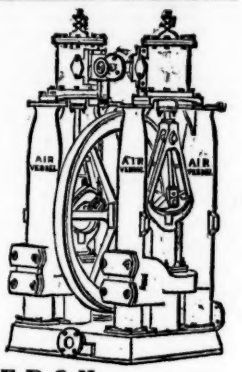

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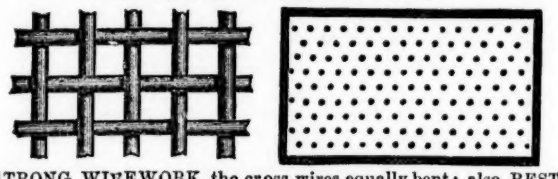

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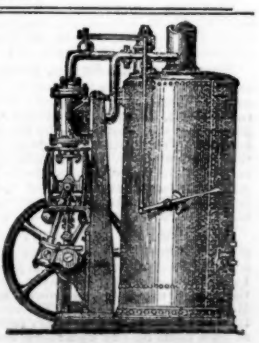


Fig. 86.

GWYNNE & Co.'s IMPROVED CHAIN-PUMP,
Worked direct by Steam-Engine.

These pumps work without valves or packing, and raise a considerable quantity of water. They will lift sand, mud, or grit without choking, and require only very inexpensive repairs.

Fig. 84.

GWYNNE & Co.'s DOUBLE-ACTING PUMPING-ENGINE.

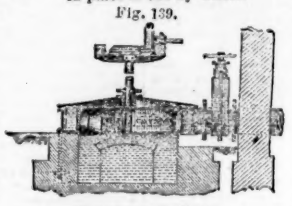
As supplied to the Admiralty Graving Docks, Malta, to lift from 200 to 2000 gallons per minute. The engine is of inverted vertical cylinder construction. The pump barrel and piston are of gun-metal, and the whole very strong and compact.

Fig. 106.

GWYNNE & Co.'S IMPROVED PLUNGER HAND PUMP.

A very neat and extremely compact arrangement; will work for years without getting out of order. These pumps are peculiarly adapted for mines, for which great numbers have been supplied in situations where no other pump could be applied for want of space. They are equally adapted for use as feed-pumps, by driving them with strap from a rigger in place of the fly-wheel.

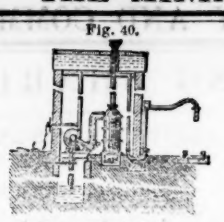
Fig. 139.



GWYNNE & Co.'S IMPROVED TURBINE WATER-WHEEL.

Compact, easy to erect, economical, simple, and perfectly adapted to all situations. Made of every power from 1 to 300 horse. These turbines are adapted for every class of work. Prices on receipt of particulars.

Fig. 40.



GWYNNE & Co.'S PATENT COMBINED STEAM-PUMP,
As Applied to Railway Stations.

The vertical boiler supplies the engine with steam, the pump discharging the water lifted from the well into the tank above, whence it may be drawn as occasion requires, for feeding locomotives, washing the carriages, as a fire-engine, &c.
Estimates given.

Fig. 142.

GWYNNE & Co.'S IMPROVED PORTABLE STEAM-ENGINE.

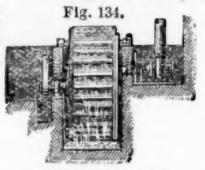
Light, simple in construction, durable, and economical, and very superior to "agricultural" engines. From 2½ to 30 horse power.

Fig. 43.

GWYNNE & Co.'S PATENTED WIND-POWER PUMPING MACHINERY.
Designed for Drainage and Irrigation Purposes

Suitable also for supplying the mansions of noblemen or gentlemen. Works continuously day and night without attention. Made from ½ to 20 horse power.

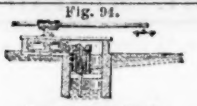
Fig. 134.



GWYNNE & Co.'S PATENT WATER POWER PUMPING MACHINERY.

Extremely useful wherever water-power is available. The centrifugal pump is worked by gear from the water-wheel. Suitable for supplying country mansions with water. No expense when once fitted. Made of all powers.

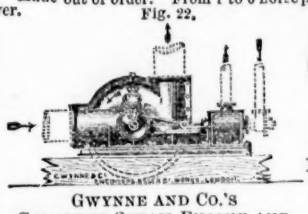
Fig. 94.



GWYNNE & Co.'S IMPROVED DULLOCK OR HORSE POWER PUMPING MACHINERY.

For situations where steam, water, or wind power are not available. Portable, easy to erect, and not liable to get out of order. From 1 to 6 horse power.

Fig. 22.



GWYNNE AND Co.'S COMBINED STEAM-ENGINE AND PATENT CENTRIFUGAL PUMP.

Small and powerful, low in cost, economical in work. No skilled labour required. Inexpensive foundations. First Prize Medal awarded at Paris last year for this arrangement.

Fig. 144.

GWYNNE & Co.'S IMPROVED VERTICAL STEAM-ENGINE.

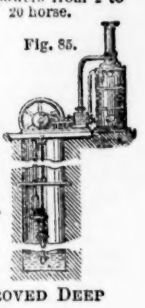
Occupies little space, compact, safe, and easy to work. Made from the very best selected materials. Of all powers from 2 to 20 horse.

Fig. 146.

GWYNNE & Co.'S IMPROVED HORIZONTAL HIGH-PRESSURE STEAM-ENGINE.

With or without expansion gear, for economical working. From 4 to 100 h. p.

Fig. 85.



GWYNNE & Co'S IMPROVED DEEP WELL PUMP.

Worked direct by steam-engine at the mouth of the well. This arrangement is invaluable in situations where, from peculiar circumstances, the centrifugal pump is inapplicable.

Large and fully Illustrated Catalogues sent on receipt of 12 postage stamps

TWELVE PRIZE MEDALS, taken at the Exhibitions of the Principal Cities of the World, TESTIFY TO THE GREAT EXCELLENCE OF THIS MACHINERY.

GWYNNE AND CO. have recently effected a considerable reduction in their prices, being determined to supply not only the BEST but the CHEAPEST PUMPING MACHINERY in the WORLD.

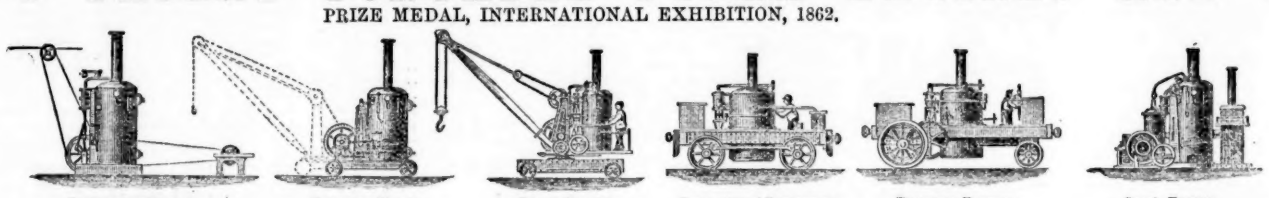
☞ TO PREVENT MISTAKES, PLEASE ADDRESS IN FULL—

GWYNNE AND CO.,

HYDRAULIC AND MECHANICAL ENGINEERS, ESSEX STREET WORKS, STRAND, LONDON, W.C.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



STATIONARY ENGINE, From 1 to 30-horse power. No building required.

PORTABLE HOIST, 1 to 30-horse power. With or without jib.

STEAM CRANE, 30 cwts. to 20 tons. For wharf or rail.

CONTRACTORS' LOCOMOTIVE, 6 to 27-horse power. For steep inclines and quick curves.

TRACTION ENGINES, 6 to 27-horse power. Light and heavy

SHIP'S ENGINE, Winding, Cooking, and Distilling. Passed by Government for half water.

ENGINES of each class KEPT IN STOCK FOR SALE or HIRE, and all GUARANTEED as to EFFICIENCY, MATERIALS, and WORKMANSHIP.

WIMSHURST AND CO., ENGINEERS, LONDOE STREET, COMMERCIAL ROAD, LONDON, . (at Stepney Station of Blackwall Railway.)

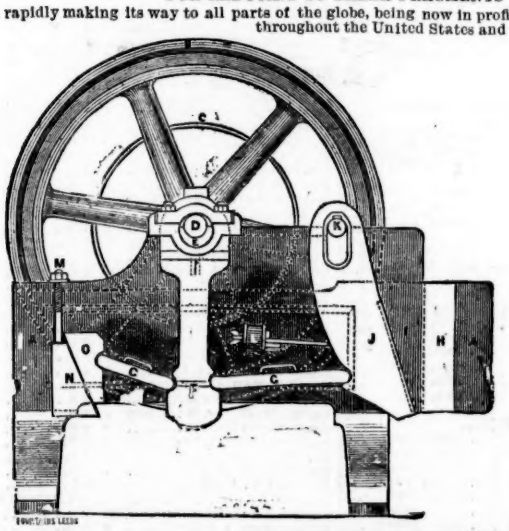
IMMENSE SAVING OF LABOUR.
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, McADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.
H. R. Marsden, Esq.

Ecton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw s about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust. Messrs. OBD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or $75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,

ONLY MAKER IN THE UNITED KINGDOM.

CAUTION!

BLAKE'S PATENT STONE BREAKER,

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

HEATON'S PATENT.

THE LANGLEY MILL STEEL & IRONWORKS COMPANY

(LIMITED),

LANGLEY MILL, NEAR NOTTINGHAM,

Are now making Cast-Steel suitable for Tools, Taps, Dies, Chisels, &c., &c., Shear Steel, and Iron of a very superior quality, by their direct process, under the superintendence of the Patentee.

The range of quality which this process secures renders the Steel and Iron suitable for almost every purpose to which these metals can be applied. Also, CAST-STEEL CASTINGS of all kinds from PATTERNS or DRAWINGS.

PRIZE MEDAL AWARDED AT THE HAVRE EXHIBITION Of 1868 TO

PEACOCK & BUCHAN INVENTORS AND MANUFACTURERS OF COMPOSITIONS FOR SHIPS' BOTTOMS &c.

ECONOMICAL, AND LASTING.

PEACOCK AND BUCHAN'S

No. 3 COMPOSITION PAINT,

Is superior to all other paints, and, being mixed ready for use, is cheaper. It also lasts longer, will wash without rubbing off, and can be applied by gardeners or labourers, requiring no oil, turpentine, or varnish. It is applicable for all kinds of house painting, greenhouses, vineries, pit frames, &c.; also for carts, wagons, railway plant, agricultural implements, and mining purposes, &c., after a successful trial of nearly TWENTY YEARS.

N.B.—It is ground in roller mills of polished granite and burnished steel by steam power, then passed through a brass wire bolting sieve, and is as fine as artists' colour, being equally applicable to the counting-house and drawing-room of the merchant, or the cabin of the yacht, steamer, or sailing ship—each tin forming a ready paint pot. It dries in a few hours with a beautiful brilliant surface, without stickiness or unpleasant smell; it is more economical, and stands longer than unground ordinary paint, mixed by hand. It has been opened after ten years, and found to be quite good and ready for use; and after a quantity on trial had been stowed away in the lockers of a ship during two voyages round the world, it was opened and used without requiring any oil, turpentine, or "thinnings," to make it fit for working.

As any person can lay it on, it is found to be most economical and useful to country gentlemen, and to the settler in India, Canada, Australia, New Zealand, &c., when living at a distance from a town—enabling every man to be his own painter. Danger from fire on board ship is also prevented. (See pamphlet, with testimonials, sent free on application.)

For prices, &c., apply to

MESSRS. PEACOCK AND BUCHAN, SOUTHAMPTON;
MR. ROBERT ORD, JUN., MANAGER, 39, UPPER EAST SMITHFIELD, LONDON
Or their accredited agents in all parts of the world.

AGENTS WANTED FOR INLAND TOWNS.

HEALTH AND MANLY VIGOUR.—A Medical Man, of Twenty Years' experience in the treatment of Nervous Debility, Spermatorrhœa, and other affections which are often acquired in early life, and unfit sufferers for marriage, and other social duties, has published a book giving the FULL BENEFIT of his LONG EXPERIENCE, GRATIS, with plain directions for the recovery of health and strength. A single copy sent to any address on receipt of one stamp.
Address to the "Secretary," Institute of Anatomy, Birmingham.

IN THE SPRING PARR'S LIFE PILLS ARE USED BY THOUSANDS. They clear from the body all hurtful impurities, and there is no Medicine has such deserved repute for preserving regularity, and, consequently, ensuring long life.

Just published, post free for three stamps.
MEDICAL FRIEND AND MARRIAGE GUIDE:
By Dr. WATSON (of the Lock Hospital), F.S.A., F.R.A.S., College of Physicians and Surgeons.

SELF-CURE OF NERVOUS AND PHYSICAL DEBILITY, Loss of Manhood, Impediments to Marriage, &c., SHOWING THE MEANS WHEREBY CERTAIN DISQUALIFICATIONS, which mar the happiness of Married Life, may be SPEEDILY REMOVED.
Consultations daily from 11 till 2, and 5 till 8; Sundays, 10 till 1.
Enclose two stamps, and address Dr. WATSON, No. 1, South-crescent, Bedford-square, London, W.C.

Just published, post free for two stamps,
WONDERFUL MEDICAL DISCOVERY, demonstrating the true causes of Nervous, Mental, and Physical Debility, lowness of Spirits, Indigestion, WANT OF ENERGY, PREMATURE DECLINE, with plain directions for PERFECT RESTORATION TO HEALTH AND VIGOUR WITHOUT MEDICINE.
Sent free on receipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent, Russell-square, London, W.C With innumerable illustrative cases in proof of the WONDROUS EFFICACY of the means employed.

THE GENERAL MINING COMPANY FOR IRELAND (LIMITED).

Notice is hereby given, that the Board of Directors of this company have THIS DAY passed a resolution calling upon the several proprietors of shares in this company TO PAY a CALL of TEN SHILLINGS upon EACH and EVERY SHARE held by them respectively; and such proprietors are accordingly hereby required to pay such call on or before TUESDAY, the 1st of June next, into the Hibernian Bank, College Green, Dublin; and further, that interest at the rate of 5 per cent. per annum will be charged on any part of said call which shall remain unpaid after that day. By Order,

EDWARD MORAN, Sec. pro tem.

29, Westmoreland-street, Dublin, 15th April, 1869.

COPIAPO MINING COMPANY (LIMITED).—Notice is hereby given, that a HALF-YEARLY MEETING of the Shareholders will be HELD at the offices of the company, on FRIDAY, the 30th day of April instant, at Twelve o'clock at noon precisely, for the purpose of declaring a DIVIDEND. By order of the Board,

EDWARD J. COLE, Secretary.

2, New Broad-street, London, April 21, 1869.

THE LUSITANIAN MINING COMPANY (LIMITED).—Notice is hereby given, that the ADJOURNED FIFTEENTH ANNUAL GENERAL MEETING of the shareholders in this company will be HELD at this office, on THURSDAY, the 6th day of May next, at Half-past Two o'clock in the afternoon, to receive the reports and accounts for the year ending the 30th September, 1868, and for general purposes.

At this meeting three directors—viz., Patrick Douglas Hadow, Robert Henty, and John Phillips Judd, Esqs., will retire from office by rotation, but are eligible, and offer themselves for re-election. One of the auditors, Walter Thomas Fawcett, Esq., will also go out of office at this meeting, but, being eligible, offers himself for re-election. By order of the Board,

W. G. WILLIAMS, Secretary.

6, Queen-street-place, London, E.C., April 22, 1869.

ORINOCO GOLD MINING COMPANY (LIMITED).

PROSPECTUSES may be OBTAINED at the offices of the CENTRAL AMERICAN ASSOCIATION (LIMITED), 4, Westminster-chambers, Victoria-street, S.W.; or the Bankers, the IMPERIAL BANK (LIMITED), Lothbury.

NEW ZEALAND QUARTZ CRUSHING AND GOLD MINING COMPANY (LIMITED).

In consequence of IMPORTANT INFORMATION expected from the local agent of this company by the mail of the 17th proximo, the Directors propose to KEEP the SHARE LIST OPEN until that date, when the ALLOTMENT will TAKE PLACE according to priority of application.

Prospectuses, forms, and full information can be obtained by applying to the Secretary, 28, Moorgate-street, City. JOSEPH SIMPSON, Secretary.

CONSOLIDATED GOLD MINES.

The SHARE LIST of the WINTER'S FREEHOLD GOLD MINING COMPANY will be CLOSED on TUESDAY, the 27th instant.

By Order, THOMAS DICKER, Secretary.

4, Royal Exchange Avenue, April 21, 1869.

BRAGANZA GOLD MINING COMPANY (LIMITED),
IN THE PROVINCE OF MINAS GERAES, BRAZIL.

Capital £50,000, in 50,000 shares of £1 each.

Deposit for registered shares 2s. 6d. per share on application; 2s. 6d. on allotment.

Calls not to exceed 2s. 6d. per share, nor to be made at intervals of less than three months.

Deposit for fully paid-up scrip (to bearer) 2s. 6d. per share on application; the balance of 17s. 6d. on allotment.

CHAIRMAN.
CHARLES MORRIS, Esq., Director of the United Mexican Mining Company.

BANKERS.
THE CONSOLIDATED BANK, Threadneedle-street, and its Branches.

BROKERS.
Messrs. GEO. BURNAND and Co., 69, Lombard-street, E.C.

OFFICES,—No. 4, COLEMAN STREET BUILDINGS (48A), MOORGATE STREET, LONDON, E.C.

The Braganza Company's Mine is situated (as shown by the map on the prospectus) about midway between the St. John del Rey Company's Mine, Morro Velho, and that of the Don Pedro North del Rey Company. In the same district are also the celebrated Gongo Soco (which has yielded gold to the value of £1,500,000 sterling) and the Rossa Grande and Taquaril Mines.

Captain William Williams, who resided within two miles of the Braganza Company's Mine for ten years, and knows it well, reports of it—"In all my travels through South America and Australia I never saw so large blocks of quartz from any lode so rich in gold as those from this mine."

The mine stands high and healthy, and, being an open cutting, no pumping machinery will be required, thus saving greatly both in cost and time. Much preliminary work has been already done, and returns may be made as soon as the reducing apparatus is erected. There is abundance of labour, provisions, water, and pasture.

The total capital required to purchase and work the mine is estimated at only £26,000; and, reckoning on the ores yielding only 1 oz. of gold per ton (being the average yield of other profitable mines in the district), and on the alluvial soil yielding only ¼ oz. per ton, it is calculated that the net yearly profit, from working on the moderate scale proposed to commence with, will amount to £28,256, or more than 100 per cent. on the capital employed. From more extensive working, or from a higher average produce of gold, even a larger profit may be derived.

Prospectuses, with maps and full particulars, and forms of application for registered or scrip shares, may be obtained of the bankers, or brokers, or at the office as above. WILLIAM EDWARDS, Secretary.

BRAGANZA GOLD MINING COMPANY (LIMITED).

Notice is hereby given that the LIST OF APPLICATIONS FOR SHARES will be CLOSED on WEDNESDAY, the 5th May, for LONDON: and THURSDAY, the 6th of May, for the COUNTRY.

By order of the Board, WILLIAM EDWARDS, Sec. pro tem.

No. 4, Coleman-street-buildings, Moorgate-street, 24th April, 1869.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c, Cheshire*	10 0 0	—		10 6 8	0 5 0	Jan. 1869
200	Botallack, t, c, St. Just	91 5 0	250	240 250	528 5 0	10 0 0	Feb. 1869
4000	Brookwood, c, Buckfastleigh	1 11 0	—		0 12 6	0 2 6	Aug. 1868
1000	Bronfloyd, l, Cardigan*	12 0 0	—		11 9 0	0 12 0	April 1869
5094	Bwlch Consols, s-l, Cardigan	4 0 0	—		0 5 0	0 5 0	June 1868
6400	Cashwell, l, Cumberland*	2 10 0	—		0 3 0	0 1 6	Aug. 1868
916	Cargoll, s-l, Newlyn	15 5 7	—	18 20	16 5 0	0 10 0	April 1869
1280	Chanticleer, l, Flint	0 7 8	—		0 1 0	0 0 6	Nov. 1868
2450	Cook's Kitchen, c, Illogan‡	19 14 9	16	15 16	2 4 6	0 7 6	April 1869
509	Creegbrawse and Penkevil, t	--			2 5 0	1 5 0	April 1868
867	Cwm Erfin, l, Cardiganshire*	7 10 0	—		30 3 0	0 10 0	April 1869
128	Cwmystwith, l, Cardiganshire	60 0 0	—		385 10 0	2 0 0	Feb. 1869
280	Derwent Mines, s-l, Durham	300 0 0	—		177 0 0	2 10 0	July 1868
1024	Devon Gt. Consols, c, Tavistock†	1 0 0	—	240 260	1128 0 0	4 0 0	Mar. 1869
656	Ding Dong, t, Gulval‡	49 14 6	—	24 25	2 0 0	1 10 0	Mar. 1869
358	Dolcoath, c, t, Camborne	128 17 6	500	480	884 10 0	10 0 0	April 1869
6144	East Caradon, c, St. Cleer†	2 14 6	7¼	7¼ 7⅛	14 11 6	0 2 0	July 1867
300	East Darren, l, Cardiganshire	32 0 0	—		166 10 0	2 0 0	Mar. 1869
128	East Pool, t, c, Pool, Illogan	24 5 0	—	300 320	457 10 0	5 0 0	Mar. 1869
1906	East Wheal Lovell, t, Wendron	3 9 0	9⅛	8½ 9	4 11 6	0 10 0	Jan. 1869
2800	Foxdale, l, Isle of Man*‡	25 0 0	—		73 0 0	0 10 0	April 1869
5000	Frank Mills, l, Christow	3 18 6	4	3¾ 4	3 9 6	0 4 0	Feb. 1869
3950	Gawton, c, Tavistock	3 10 6	—		0 3 0	0 3 0	Jan. 1868
15000	Great Laxey, l, Isle of Man*	4 0 0	20	18½ 19½	10 5 0	0 10 0	Mar. 1869
3000	Great Northern Manganese*	5 0 0	—	5 5½	—	5 p.ct.	Feb. 1869
5908	Great Wheal Vor, t, c, Helston†	40 0 0	18	17½ 18⅛	14 1 0	0 5 0	Mar. 1869
1024	Herodsfoot, l, near Liskeard†	8 10 0	46	44 46	49 10 0	1 10 0	Feb. 1869
165	Levant, c, t, St. Just	10 8 1	—		1099 0 0	4 0 0	Jan. 1869
400	Lisburne, l, Cardiganshire	18 15 0	—		515 0 0	3 0 0	Mar. 1869
3000	Maes-y-Safn, l, Flint*	20 0 0	—		4 0 0	0 5 0	Oct. 1868
9000	Marke Valley, c, Caradon	4 10 6	9	8½ 9	5 4 0	0 5 0	April 1869
3000	Minera Boundary, l, Wrexham*	1 0 0	—		0 13 0	0 3 0	Mar. 1866
1800	Minera Mining Co., l, Wrexham*	25 0 0	—	165 170	248 13 6	5 0 0	Feb. 1869
20000	Mining Co. of Ireland, c, l, cl.	7 0 0	11¼		—	9 p.ct.	July 1868
40000	Mwyndy Iron Ore*†	3 5 0	—		0 11 6	0 3 0	Feb. 1869
2000	North Levant, t, c, St. Just	10 12 0	12	11½ 12	0 5 0	0 5 0	Mar. 1869
200	Parys Mines, c, Anglesey*	50 0 0	—		162 10 0	2 10 0	Aug. 1868
5000	Penhalls, t, St. Agnes	3 0 0	—	6¾ 6⅞	0 6 6	0 4 0	April 1869
12800	Prince of Wales, t, Calstock	0 12 6	1¼	1⅛ 1¼	0 8 6	0 1 0	Nov. 1868
1120	Providence, t, Uny Lelant†	10 6 7	40	38 40	88 2 6	1 10 0	Mar. 1869
512	South Caradon, c, St. Cleer†	1 5 0	—	370 380	612 10 0	5 0 0	Mar. 1869
6000	South Darren, l, Cardigan*	3 6 6	—		0 14 6	0 1 6	Feb. 1869
937	South Wh. Crofty, c, Illogan	24 10 10	13½	13 14	1 10 0	0 10 0	Feb. 1869
496	So. Wh. Frances, c, Illog.†‡	18 18 9	17	16½ 17	374 13 6	1 0 0	Mar. 1868
508	Summer Hill, l, Mold	3 18 6	—		2 5 6	0 5 0	Feb. 1868
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	12	18 19	20 11 0	0 10 0	Mar. 1869
2000	Trumpet Cons., t, Helston	11 10 0	22½	20 22½	8 0 0	0 10 0	Jan. 1869
12000	Van, l, Llanidloes*	4 5 0	26½		—	—	
3000	W. Chiverton, l, Perranzabuloe†	10 0 0	52	49 51	33 7 6	2 0 0	Feb. 1869
5000	West Godolphin, t, c, Breage	0 1 0	—		0 2 0	0 2 0	Dec. 1867
512	West Wheal Frances, t, Illogan	106 15 0	58	51 53	1 10 0	1 10 0	April 1869
400	W. Wheal Seton, c, Camborne†	47 0 0	195	185 190	628 0 0	6 0 0	April 1869
512	Wheal Basset, c, Illogan†	5 2 6	75	65 70	632 10 0	1 0 0	June 1868
1024	Wheal Friendship, c, Tavistock.	20 0 0	—		300 10 0	0 10 0	Nov. 1866
512	Wheal Jane, s-l, Kea	10 15 0	47½	40 45	23 0 0	2 0 0	Mar. 1869
4295	Wheal Kitty, t, St. Agnes	5 4 6	6½	5½ 6	3 13 0	0 2 0	Feb. 1869
1024	Wheal Mary Ann, l, Menheniot†	8 0 0	17½	16½ 17	67 15 0	0 17 6	Mar. 1869
80	Wheal Owles, t, St. Just‡	70 0 0	—		403 3 0	52 10 0	Feb. 1869
396	Wheal Seton, t, c, Camborne	58 10 0	70	60 65	254 15 0	2 0 0	Feb. 1868
3000	Whitewell Lead, Clitheroe*	0 5 0	—		1 0 0	0 10 0	Dec. 1867
17000	Wicklow, c, l, Wicklow	2 10 0	11⅞		49 6 0	0 5 0	Mar. 1869

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
35000	Alamillos, l, Spain*†	2 0 0	1¾		0 6 6	0 2 0	Mar. 1869
20000	Australian, c, South Australia†‡	7 7 6	—		0 1 6	0 0 6	Aug. 1868
15000	Cape Copper Mining*†	7 0 0	—		3 17 6	0 15 0	Nov. 1868
30000	Central American Association*†	1 10 0	—		—	—	
76162	Don Pedro North del Rey*†‡	0 14 0	4⅝	5 5¼	1 0 3	0 6 0	Mar. 1869
70000	English and Australian, c‡	2 10 0	—		—	0 0 9	Feb. 1869
25000	Fortuna, l, Spain*†	2 0 0	2¼		1 14 10	0 3 0	Mar. 1869
20000	Gen. Mining Assoc., Nova Scotia†	20 0 0	—		23 10 0	0 15 0	June 1867
10000	Gonnesa, l, Sardinia*	5 0 0	—		10 per cent.		Aug. 1868
68000	Kapunda Mining Co., Austra†‡	1 0 0	—		0 1 10	0 0 6	Nov. 1868
15000	Linares, t, Spain*†	3 0 0	3		11 18 4	0 3 4	Mar. 1869
50000	Panulcillo, c, Chili*†	3 0 0	1		10 per cent.		Yearly.
6000	Peel River Land and Mineral*†	100 0 0	—		—	—	
10000	Pontgibaud, s-l, France†	20 0 0	13		5 6 2	0 19 7	Dec. 1868
100000	Port Phillip, g, Clunes†	1 0 0	1¾	1¾ 1⅞	1 3 6	0 1 6	Jan. 1869
120000	Scottish Australian Min. Co.†	1 0 0	1⅛		10 per cent.		Nov. 1868
11000	St. John del Rey, Brazil*†	15 0 0	17	16½ 17	81 10 0	4 5 0	Dec. 1867
4000	Swedish Sulphur Ore*	2 10 0	—		7½ per cent.		Dec. 1868
13500	Vancouver Coal Mining*†‡	6 0 0	8¾		2 2 6	0 12 0	Nov. 1868
50000	Victoria (London) [25000 £1 pd., 25000 12s. 6d. pd.]				0 9 7	0 0 7	July 1868
40000	West Canada Mining Co.*	1 0 0	—		0 19 6	0 2 6	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
50000	Anglo-Argentine, s, Argentine Republic*	1 0 0	—	⅞ 1⅛	
100000	Anglo-Brazilian, g*†	0 10 0	⅜		Nov. 1866
12500	Anglo-Italian, g*†	0 10 0	⅞		Jan. 1868
20000	Australian United, g	1 0 0	—		Mar. 1868
2464	Burra Burra, c, South Australia‡	5 0 0	—		
20000	Capula, s, Mexico*†	1 17 6	—		May 1868
30000	Chontales, g, s, Nicaragua*†	5 0 0	1⅜	1⅜ 1½	Mar. 1868
12000	Cobre Copper Company, c, Cuba†‡*	45 10 0	—		Jan. 1868
10000	Copiapo Mining Company, Chili†‡	16 10 0	—		
10000	Copiapo Smelting, Chili*	10 0 0	—		April 1866
300	Copper Miners' Co. of South Australia* [150 £100 pd., 150 £70 pd.]				Nov. 1866
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—		Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	—		Fully pd.
50000	Frontino and Bolivia, g, New Granada*†	1 17 6	1⅛	1¼	May 1868
150000	General Brazilian*	0 10 0	¾	¾	Feb. 1869
80000	Great Northern, c, South Australia†	1 11 6	—		Sept. 1862
50000	Javali, g, Nicaragua	2 0 0	—		Jan. 1869
7927	Lusitanian (Portugal)†‡	2 15 0	—		Dec. 1866
83640	Mariquita, g, s, New Granada	1 0 0	—		Feb. 1868
12500	Nerbudda Coal and Iron, India*†	6 0 0	—		Dec. 1867
51000	New Quebrada, c, Venezuela*†	4 4 0	—		
80000	Pestarena United, g, Italy*†	2 17 6	—	1 1¼	
10178	Rhenish Consolidated, l [6000 £5 pd., 4178 £2 10s. pd.]	—	—		May 1866
100000	Rossa Grande, g, Brazil*†	0 14 0	1¼	⅜ ½	June 1867
15000	San Pedro del Monte, s, Mexico*	4 0 0	—		Sept. 1866
10000	San Roque, l, Spain	5 0 0	—		Fully pd.
50000	Sao Vicente, Brazil*†	0 4 0	¼		Oct. 1868
100000	Taquaril, g, Brazil*	0 7 6	⅝	½ ⅝	Oct. 1868
43174	United Mexican, s, Mexico†‡*	28 5 2	2⅛	2 2¼	May 1868
30000	Val Antigoria, g, Italy*	1 2 6	—		
6000	Val Sassam, s, c, l, Italy*†	8 0 0	—		Aug. 1868
45000	Victor Emanuel, c, Italy*	1 0 0	—		Fully pd.
20000	Washoe, g, Nevada†	5 0 0	—		Fully pd.
80000	Worthing, c, South Australia*†	1 0 0	¼		Fully pd.
75000	Yorke Peninsula, South Australia	1 0 0	—		Fully pd.
45000	Yudanamutana, c, South Australia*†‡	3 0 0	1⅝	1⅛	Fully pd.

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
12000	Brynpostig, Montgomery, l*	1 0 0	2	1⅞ 2	
1000	Carn Brea, c, t, Illogan‡	30 0 0	21	19 20	June 1868
3000	Chiverton, l, Perranzabuloe	11 0 0	3⅛	3 3¼	Nov. 1868
3000	Chiverton Moor, l, Perranzabuloe	7 0 6	3¾	3 3½	Feb. 1869
2880	Clifford Amalgamated, c, Gwennap‡	40 17 6	—		Oct. 1868
12800	Drake Walls, t, Calstock‡	2 10 0	1⅛	1	Jan. 1868
512	East Basset, c, Redruth†‡	37 0 0	—	7½ 8½	Nov. 1868
6000	East Carn Brea, c, Redruth‡	4 12 0	½	⅜ ½	Feb. 1869
6000	East Grenville, c, Camborne	4 4 0	5¾	5 5¼	Feb. 1869
4000	East Wheal Russell, c, Tavistock†	13 13 6	—		Oct. 1868
6144	Gonamena, c, St. Cleer	7 15 3	—	1 1¼	April 1869
5000	Great North Downs, c, Redruth	6 13 0	2¼	2¼ 2⅛	Feb. 1867
4800	Great Retallack, s-l, b, Perranzabuloe	2 19 6	2⅛	2 2½	Oct. 1868
5143	Great South Tolgus, c, Redruth	1 10 6	1½	1½ 1¾	Dec. 1868
1798	Great Wheal Fortune, t, Breage	31 7 4	—		Mar. 1868
6000	Hingston Down, c, Calstock†	5 12 0	—		Dec. 1868
400	New Wheal Seton, c, Camborne	63 0 0	70	60	Jan. 1869
3457	North Downs, c, Redruth	5 12 10	—		Mar. 1869
695	North Roskear, c, Camborne	61 19 0	—	6 8	Jan. 1869
5936	North Treskerby, c, St. Agnes	1 13 10	⅞	⅝ ¾	Feb. 1869
1024	Rose and Chiverton United, l, Newlyn	6 10 0	—		Jan. 1869
6138	South Condurrow, t, c, Camborne	4 10 6	1¼	1⅝	Feb. 1869
1000	South Merllyn, l, Flint	1 0 0	1		
940	St. Ives Consols, t, St. Ives‡	10 15 0	22		Nov. 1867
920	Stray Park, c, t, Camborne†‡	46 2 8	—		April 1869
6000	West Basset, c, Illogan†‡	2 0 0	1⅞	1¾	May 1868
1024	West Caradon, c, St. Cleer‡‡	27 0 0	5¼		Mar. 1869
2582	West Great Work, t, Breage	5 11 0	—		June 1866
3535	West St. Ives, t, c, St. Ives	0 6 0	—		Mar. 1869
5000	West Wheal Kitty, t, St. Agnes	3 4 0	—		Nov. 1869
6000	Wheal Agar, c, Illogan	7 18 0	1¼	1⅜	Mar. 1869
512	Wheal Buller, c, Redruth†‡	29 10 0	20	17 18	Feb. 1869
811	Wheal Emily Henrietta, c, Illogan	20 15 0	19		Jan. 1867
5724	Wheal Grenville, c, Camborne†	10 10 0	2¾		Dec. 1868
1040	Wheal Trelawny, s-l, Liskeard†	10 17 0	—		Mar. 1869
4096	Wheal Uny, t, c, Redruth	10 14 6	4	3½ 3¾	Oct. 1868

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
4000	Ballacorkish, I. of Man, l, c*	4 0 0	—	
4000	Bedford Consols, c, Tavistock	3 0 6	¾	¾
4000	Bedford United, c, Tavist.*	2 17 8	—	1¾ 2
5000	Blue Hills, t, c, St. Agnes	0 5 0	1⅛	1¼
1248	Boscaswell, t, c, St. Just	7 6 0	—	
5000	Bottle Hill, t, Plympton	1 14 6	—	
12000	Bradda, c, l, Isle of Man*	1 10 0	—	
5000	Bryn Gwiog, l, Flint	0 18 0	—	
1200	Bryn Gwyn, l, Mold*‡	9 0 0	—	
7500	Brynystwith, l*	2 0 0	2½	2⅛
1000	Budnick Consols, t	2 14 0	—	3 3¼
6000	Bwadrain Cons., s-l, Cardig.	3 2 0	—	
30000	Caldbeck Fells, l, Cumberld.*	1 17 6	—	
1000	Camborne Consols, c	11 10 0	—	
11000	Cape Cornwall, t, c* [8000 £2 10s. pd., 3000 25s. pd.]			
5000	Capel Banhaglog, l, Mont.*	2 0 0	2	2¼ 2⅜
914	Caradon Consols, c, St. Cleer	33 6 0	—	
1000	Cardynham China-clay*	3 0 0	—	
6000	Carn Camborne, c, Cambrn.	2 12 0	—	
20000	Carysfort [3200 £2⅛ pd., 16800 £1 ⅛ pd.]			
24000	Central Snailbeach l*	1 0 0	—	
3000	Chiverton Valley, l, Perranz.	2 0 0	—	
2048	Colquite & Callington Un., c.	1 3 0	—	
256	Condurrow, c, t, Camborne‡	76 10 0	—	
50000	Connorree, c, sul, Wicklow*	1 0 0	⅛	
983	Copper Hill, c, Redruth‡	12 10 0	—	
1000	Cornwall Hematite*	5 0 0	—	
1055	Craddock Moor, c, St. Cleer‡	14 12 0	—	
6000	Cuddra, t, St. Austell	5 10 0	—	
300	Cwm Darren, Cardigan*	—	—	
4000	Devon & Cornwall United	5 18 0	—	
5000	Dolwen, l, Cardiganshire	0 10 0	—	
740	Eaglebrook, l, Talybont*	19 15 0	—	
1000	East Basset and Grylls, t	3 5 0	—	
4000	East Chiverton, l, Perranz.	3 7 9	1¾	1¾
4000	E. Gunnislake & S. Bed. c.	11 1 6	—	
6000	East Laxey, l, Isle of Man	3 0 0	—	
4096	E. New Wh. Lovell, t, Wend.	0 5 0	—	
3928	East Providence, t, Lelant	5 4 9	1¼	
5000	E. Rosewarne, c, t, Gwinear	2 19 0	—	
6000	East Snaefell, l, I. of Man*	3 0 0	—	
5610	East Seton, c, Camborne	0 16 6	—	
2000	East Trumpet, c, t	1 15 0	—	
6000	East Wheal Reeth, Lelant	—	1⅜	1⅛ 1¼
6000	Ebury Lead Min. Co., Flint*	2 10 0	—	
1026	Garden, c, Morvah	6 15 3	—	
6000	Gen. Min. Co. for Ireland, c.	5 10 0	2s.	
40000	Glasgow Caradon, c* [30,000 £1 p., 10,000 15s. p.]			
10000	Glan Alun, l, Mold*	0 16 0	¾	
5700	Goginan, Cardigan, l	12 10 0	—	
2866	Great Caradon, c, St. Ive	4 5 9	—	
12500	Gt. No. Laxey (Isle of Man)*	1 0 0	1¼	1 1¼
6000	Great N. Telgus, c, Illogan	1 0 0	—	
15000	Great Rhosesmor, l	5 0 0	—	
4096	Great Royalton, t	0 7 6	¾	1
6000	Gt. S. Chiverton, s-l, Perranz	2 0 0	2	2
6000	Great Western, t	2 0 0	2½	
3313	Gt. Wh. Baddern, t, Devoran	7 17 6	—	
119	Great Work, t, Germoe	100 0 0	—	
10240	Gunnislake (Clitters'), t, c	4 19 0	—	
6000	Gwydyr Park, l, Llanrwst	1 12 0	—	
250	Hallowford, s-l, Cardigan	5 0 0	—	
6400	Harwood, l, Durham*	0 7 6	—	
5000	Ironmasters' Company*	10 0 0	—	
1019	Leeds and St. Aubyn, t, c	19 13 4	—	
1000	Llywernog, l, Cardiganshire	13 10 0	—	7⅛
5120	Lovell Consols, Wendron, t.	0 6 0	1	1
6000	Maudlin, c, Lostwithiel	4 7 0	—	
6000	Mid-Wales, l,*	2 10 0	—	
4662	Minera Union, l [2500 £4 pd., 2162 £2 7s. 6d. pd.]			
1000	Montgomeryshire, l, b*	4 0 0	—	
640	Mount Pleasant, l, Mold	4 0 0	—	
1024	Nangiles, t, c, Kea	33 12 0	—	
1500	New Chiverton, l, Perranz.	1 4 6	—	⅞
6000	New Clifford, c., Gwennap*	3 5 0	—	
6250	N. Crow Hill, l, St. Stephen	3 9 0	—	
6514	New E. Russell, c, Tavistock	0 12 6	—	
20000	New Gt. Cons., c, Tavistock*	1 0 0	—	
6400	New Pembroke, St. Blaz. t, c	1 17 0	—	
3425	New Treleigh	6 10 0	—	
6000	New Westminster, l	6 0 0	—	
4096	New Wh. Lovell, t, Wendron	1 19 6	2¾	2½ 2¾
4000	N. Wh. Prosper, t, St. Hilary	0 2 6	—	
2000	N. Wh. Towan, c, t, Wendron	1 10 0	—	
5000	No. Dolcoath, c, Camborne	4 3 0	—	
1361	No. Grambler, c, Redruth	9 3 9	—	
6000	North Jane, t, s-l, Kenwyn	3 7 6	⅞	¾
4000	No. Phoenix, c, Linkinhorne	4 11 0	—	
3240	North Pool, c, Illogan	6 3 6	—	
1024	No. Retallack, c, Perranzabuloe	2 0 0	—	
6000	North Wheal Basset, c, t†	5 0 0	—	
3000	N. Wh. Chiverton, l, Perran.	5 0 0	—	
5610	N. Wh. Crofty, c, Illogan†	3 11 3	1⅛	
12288	Okel Tor, c, Calstock	2 7 4	—	
8000	Old Gunnislake, c, Calstock	3 9 6	—	
6400	Par Consols, c, St. Blazey†‡	2 14 6	—	
5754	Pedn-an-drea, t, Redruth	7 18 0	—	
5000	Pendeen Consols, c, St. Just	7 11 0	—	
4000	Penhale United, s-l*	4 10 0	—	
2177	Penhale Wh. Vor, t, c, Breage	6 12 6	—	
1772	Polberro, t, St. Agnes	15 0 0	—	
12800	Princess of Wales, c, t	0 7 0	—	
6000	Prosper U., t, c, St. Hilary	9 14 0	—	
4620	Redmoor, c, t, Callington	2 1 0	¼	
6000	Reinnie Laxey, l, I. of Man*	4 10 0	—	
6000	Roaring Water, c*	2 15 0	—	
2000	Rosecliff and Tolcarne, l*	9 15 0	—	
5905	Rosewall Hill & Ransom, t‡	4 0 0	1⅝	1½ 1⅝
10000	Royalton, t, St. Columb	1 1 0	—	
20500	Snaefell, l, Isle of Man*	1 0 0	—	
512	South Basset, c, Gwennap	30 10 0	—	
5000	South Carn Brea, c, t	0 5 0	½	⅜ ½
3000	So. Chiverton, s, l, Perranz.	6 2 6	—	
3000	So. Fowey, c, Tywardreath	1 0 0	—	
5000	So. Gt. Work, t, c, St. Hilary	0 2 6	—	
6000	South Grenville, c	0 2 0	¼	
3395	So. Herodsfoot, l, Liskeard	4 10 0	1⅛	
400	So. Wh. Seton, c, Camborne	87 3 0	—	
242	Spearne Moor, t, St. Just	6 2 0	—	
673	St. Ives Wh. Allen, t, St. Ives	18 18 7	—	
8771	St. Just Amalg., t,* [6000 £3 10s. pd., 2771 £2 5s. pd.]			
300	Steeple Aston Iron Ore Co.	10 0 0	—	
7000	Stiperstones, l, Salop*	6 0 0	—	
6000	Tamar Valley, s-l, Beeralston	0 18 0	—	1¼
3500	Tin Hill, t, St. Austell	1 12 0	—	
6000	Tin Valley, St. Neot	1 0 0	1¼	
548	Trelyon Consols, t, St. Ives	16 10 0	—	
501	Tresavean and Trethurrup	16 11 0	—	
4096	Trewetha, s-l, Menheniot	10 19 6	—	
1943	Treworlis, t, Wendron	11 15 4	—	
4200	Vigra and Clogau, c, Dolg.*‡	5 10 0	—	
256	West Damsel, c, Gwennap	38 10 0	—	
12800	W. Drake Walls, c, Calstock	0 8 6	¼	¼
12000	W. Maria & Fortes., c, Lam.	3 13 0	—	
12800	West Prince of Wales, c	0 11 0	4s.	
838	West Rose Down, c, Linking.	23 0 0	20	
512	West Tolgus, c, Redruth	62 0 0	—	
4096	W. Wh. Tremayne, St. Erth	0 14 0	—	
6400	Wheal Argent, s, Calstock	—	—	
741	Wheal Basset and Grylls, t	7 18 6	11	8 10
5368	Wheal Crebor, c, Tavistock	2 7 6	½	½ ⅝
4000	Wh. Emma, c, Buckfastleigh	3 19 0	—	
1560	Wheal Falmouth & Sperries	9 1 0	—	
3700	Wheal Ida, s-l, St. Ive	1 9 6	—	
1024	Wh. Kitty, t, Uny Lelant†	3 10 6	—	
896	Wh. Margaret, t, Uny Le.‡	13 17 6	9	7 8
728	Wheal Margery, St. Ives, t, c	27 4 0	—	
6000	Wheal Mary Florence, c*	2 10 0	—	
1000	Wh. Mary Hutchins, Plymp.	2 12 6	—	
2000	Wheal Rose, c, Scorrier	1 0 0	—	
4663	Wheal Sparnon, c	3 17 0	—	
1920	Wh. Trannack, c, Sithney	1 13 3	—	
1200	Wheal Trevenna, t, c*	10 0 0	—	

IRON AND COAL COMPANIES.

100	Bolckow, Vaughan, and Co.*	30 0 0	9¼ 9¾ pm.
100	Brown, John, and Co.*	70 0 0	24 22 dis.
100	Charles Cammell and Co.*	80 0 0	31 29 dis.
10	Consett Iron Company*	7 10 0	1 1¼ pm.
32	Ebbw Vale Iron Co.*	27 10 0	11¼ 10¾ dis.
15	Hopkins, Gilkes, and Co.*	10 0 0	2 1 dis.
12½	Mersey Steel and Iron Co.*	11 10 0	8½ 8⅜ dis.
10	Midland Iron Company*	5 0 0	7 7¼ pm.
35	Palmer's Shpbldg. & Iron Co.*	25 0 0	6 5¾ dis.
100	Parkgate Iron Company*	57 10 0	33 31 dis.
20	Patent Shaft & Axletree Co.*	10 0 0	5⅛ 5⅜ pm.
50	Rhymney Iron Company	50 0 0	22 24 dis.
15	Ditto, New	15 0 0	6¼ 6¾ dis.
100	Sheepbridge Coal & Iron Co.*	50 0 0	21½ 20½ dis.
100	Staveley Coal and Iron Co.*	60 0 0	30 31 pm.
100	Thames Iron Company*	100 0 0	70 — dis.

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate; sl, silver-lead; t, tin; z, zinc.

, Companies marked thus * have been incorporated with Limited Liability; those marked † have been admitted on the Stock Exchange, those marked thus ‡ have paid Dividends.

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